

WWW.MINDFIELDS.IN

# mindfields

THE JOURNAL ABOUT IDEAS AND LEARNING

SPECIAL DOUBLE ISSUE JANUARY 2011 | SUGGESTED PRICE RS 100

Special Double Edition Featuring

## SCHOOL OF TOMORROW CONFERENCE

Management Guru **PETER SENGE**

Democratising Schools

Harvard Professor **DAVID PERKINS**

Teaching for the Unknown

Author **GURCHARAN DAS**

The Importance of Private Education

Educator **ASHISH RAJPAI**

Teachers should Teach and Not Tell

**DISCUSSION** How to Build Instructional  
Leadership

**DISCUSSION** What Society Expects From  
Schools

**Mindfields People**

Graham Ranger

Shalini Advani

Vivek Ramchandani

**JUMPSTART** Conference on  
Children's Literature

**OUTREACH** Empowering  
Children through Storytelling

**INSIDE SCHOOLS** One of the  
greenest Schools in India

**JARED DIAMOND** TED Feature  
on why societies collapse





**mindfields**

[www.mindfields.in](http://www.mindfields.in)

**Editors**

AMRUTA PATIL  
LUKE HAOKIP

**Publisher**

LUKE HAOKIP  
for iDiscoveri Education Pvt Ltd  
4th Flr, Emerald Court, SCD 57, Sector 29,  
Gurgaon- 122 001, India  
T : +91 124 2556 000

**Advisors**

ASHISH RAJPAL  
ARVIND GUPTA

**Art Direction and Production**

Studio Umbilical  
[www.umbilical.co.in](http://www.umbilical.co.in)

**Subscriptions** [subscribe@mindfields.in](mailto:subscribe@mindfields.in)

**Editorial** [editor@mindfields.in](mailto:editor@mindfields.in)

©Mindfields

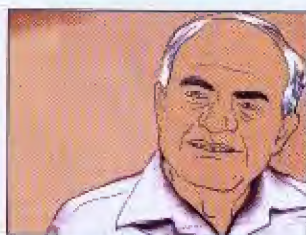


Printed at Aegean Offset Printers,  
Greater Noida  
[www.aegeanoffset.com](http://www.aegeanoffset.com)

Issue 12 and 13 January 2010



# **SCHOOL OF TOMORROW** The XSEED Conference on the Future of School Education **SPECIAL FEATURE**



## **EXCLUSIVE**

Gurcharan Das on the Importance of Private Education

*The True Idea of Knowledge*

**Page 10**



## **WORLDLY WISE**

Peter Senge on Decentralising School Education

*Innovations in School*

**Page 16**



## **TEACHERS WHO TEACH NOT TELL**

Ashish Rajpal

*The Light to Education*

**Page 22**



## **WORLDLY WISE**

David Perkins on imbuing the spirit of flexpertise to teach for the future

*Educating the Unknown*

**Page 28**



## **OUTREACH**

Katha

*Empowering school children through storytelling*

**Page 46**



## **INSIDE SCHOOLS**

Instructional Leadership

*How a School Leader can improve teaching and learning?*

**Page 56**



## **POLICY**

What Society Expects from Schools

*How will education reform reach the last mile?*

**Page 62**

**EDITOR'S NOTE** Page 02

**SUBSCRIPTION FORM** Page 03

**SPECIAL FEATURE** Page 06  
School of Tomorrow: An Introduction

**EDUCATOR INTERVIEWS** Page 36  
Shalini Advani, Graham Ranger and Vivek Ramchandani

**OPINION: GRAHAM RANGER** Page 42  
A Case for International Schools

**INSIDE SCHOOLS** Page 52  
A small new school for the masses is one of the ten greenest schools in India

**EXCLUSIVE: JARED DIAMOND** Page 68  
Why Societies Collapse

**EVENTS** Page 74  
Jumpstart: Join the Dots - An exclusive conference on children's literature

**BOOKS** Page 78  
The Hippocampus  
Good Reading Guide

**END NOTE** Page 80  
Interview with David Perkins

## **MINDFIELDS TEAM**

Amruta Patil, Luke Hookip, Aravinda A., Studio Umbilical

## **CONTRIBUTORS FOR THIS ISSUE**

Anousha Yadav, Anustup Nayak, Ashish Rajpal, Bindu Chander, Graham Ranger, Sridala Swami

## **INPUTS AND EDITORIAL ASSISTANCE**

Selena George, Kavita Bhanot





# have a mindfields story to share?

- Do you know a person whose work in the realm of education merits celebration?
- Do you know a school that fosters individual thinking, that is unafraid of taking the less beaten path?
- Do you know a teacher whose work and spirit make for sparkling classroom interactions?
- Are you a creative individual – scientist, historian, artist, poet, musician, writer – who knows how to cut through the jargon and talk about your work to lay people?
- Do you have an anecdote about an insightful, heartwarming interaction with a student or child?

If the answer to any of these questions is 'yes' – do write to us at [editor@mindfields.in](mailto:editor@mindfields.in)

We will be happy to have your suggestions and contributions translate into interviews, features, comic strips in our future issues.

Contributors will receive a honorarium and a free year-long subscription to Mindfields.



**O**n December 7th, 2010 over 1500 school leaders gathered for what was India's most significant education conclave this year; the iDiscoveri XSEED 'School of Tomorrow' conference. The conference was held simultaneously across New Delhi, Mumbai and Chennai and Hyderabad with a seamless videoconference link with the Harvard and MIT campuses in Boston. With leading lights like Gurcharan Das, Peter Senge of MIT and Prof. David Perkins gave keynote addresses and over 40 eminent panelists from Education, Government and Business contributed to provocative panel discussions.



Author Gurcharan Das opening the conference with the India Education address

# SCHOOL OF TOMORROW

7<sup>th</sup> December  
New Delhi

The XSEED Conference on the Future of School Education

Text: Anustup Nayak  
Photos: Mindfields Team

Through a diversity of viewpoints, the conference disseminated a coherent message about what lies ahead for school education today. The speakers concurred that the world of tomorrow is going to demand a different set of skills from children that include creativity, confidence and ethical values; and not just memorization and examination performance. Finally, the conference also showcased some very useful practical ideas on how to re-design curriculum, teaching and assessment practices so that children learn by





The School of Tomorrow Conference in progress at New Delhi

experience, engagement, reflection and application.

The conference opened with the India Education address from author Gurcharan Das who made a direct connection between education quality and the destiny of the nation. He noted - "India has become the second fastest growing economy in the world with one hand tied. The tied hand is a metaphor for the lack of good education to our children. Imagine what would happen if the other hand got untied."

The panel discussions on society's expectations from schools echoed Gurcharan's thoughts. Leaders from the corporate world, media and government noted that a

different kind of citizen was needed for tomorrow's India. They emphasized the need for nurturing innate talents of children, helping them choose their vocations, giving them creative and collaborative skills, and an ability to lead a balanced life.

A panel of education experts and school leaders made three clear calls for action to the domain. The first was to school principals to step out from the office room into the classroom to engage directly in the process of student learning. The second was to school managements to invest heavily in professional development of teachers. And the last was for the policy makers for shifting the emphasis from content to teaching methods.

Over 1500 school leaders gathered for India's most significant education conclave in 2010, the iDiscoveri XSEED School of Tomorrow conference.



The conference was held simultaneously across New Delhi, Mumbai, Chennai and Hyderabad with a seamless video-conference link with the Harvard and MIT campuses in Boston.



XSEED material showcased at the venue in New Delhi

Many members of the audience spoke candidly about the urgent need to reform current practices inside schools and called for a dramatic change in parental aspirations from children. Showcasing path-breaking research from leading practitioners on the subject significantly enriched the conversation generated in the conference.

Peter Senge of MIT, one of the top 25 thinkers of the world gave

an address on 'De-Industrializing School Education' in which he made a case for learning that was rooted in 'doing' by children, contextualized to their world and provided opportunity for personal growth.

He showed a powerful video of a school in Tucson Arizona that showed young children practice complex 'Systems Thinking' principles in their daily life – while reflecting on school violence.

Gurcharan Das and Ashish Rajpal addressing members of the media







Peter Senge addressing the conference from his office at MIT in Boston

Ashish Rajpal, founder and CEO of iDiscover Education, in his case-study presentation 'The Light to Education' showed how a simple multi-step learning process of action followed by reflection and feedback could replace the one-step 'telling' prevalent in most classrooms. With videos of children, teachers and parents who are experiencing this program in hundreds of mainstream schools in India, Ashish showed that genuine innovation was possible at scale.

Mindfields at the conference

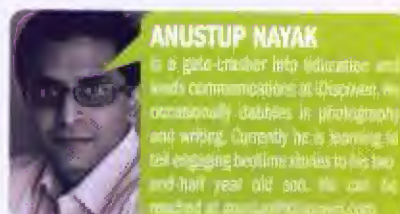


David Perkins, Harvard professor and a leading researcher on creativity and thinking in classrooms, brought two provocative thoughts in his keynote address "Teaching for the Unknown". He emphasized that the world of tomorrow demanded 'flexpertise' – an ability to integrate disciplines and skills to solve real-world problems vs. narrow 'expertise'. He also made a case for making informed choices on the content of what to teach children today so that it is useful tomorrow. He suggested choosing a subject like 'Communicable Diseases' that has more practical relevance over 'Mitosis,' an abstract biological concept is an example of a curriculum that is geared towards the future.

In summary, the conference generated palpable movement in the minds of people who matter most in our children's education; the owners and leaders of India's schools. ■

website: [www.schooloftomorrow.in](http://www.schooloftomorrow.in)

Peter Senge of MIT, one of the top 25 thinkers of the world gave an address on 'De-Industrializing School Education' and David Perkins of Harvard, a leading mind in creativity and thinking in classrooms talked about "Teaching for the Unknown."



**ANUSTUP NAYAK**

is a gate-crasher into education and kids' communications at *Diaphest*, he occasionally dabbles in photography and writing. Currently he is working to get engaging bedtime stories to his two and half year old son. He can be reached at [anustup@diaphest.com](mailto:anustup@diaphest.com).



**SCHOOL OF  
TOMORROW**

7<sup>th</sup> December  
New Delhi

The XSEED Conference on the Future of School Education

**SPECIAL FEATURE**

# THE TRUE IDEA OF KNOWLEDGE

Author and management guru, Gurcharan Das talks about the importance of private education in emerging markets like India - and how with very little attention paid to them, India has been able to make so much progress.

Illustration: Amruta Patil

**I**'ve always believed that the relationship between the student and the teacher is an unequal relationship, and we need to bring more equality into that relationship. We also need to see that the teacher is not somebody who gives something to the student, but it is the student who discovers things as he or she interacts with the teacher. And that's the true idea of knowledge.

Today India has become the second fastest growing economy in the world. Sometimes I wonder how this has been possible. One can understand China's success, induced from the top by an efficient government and supported by amazing infrastructure. Ours, on the other hand, is really a people's success, raised from below and almost despite the state. Some of us say, India rises at night while the government is asleep. And therefore the prosperity India has achieved is all the more remarkable

**NOW, CAN YOU IMAGINE WHAT IT WOULD BE LIKE IF WE COULD FIX GOVERNANCE?**

Governance is very much on our mind these days, what with Mr Raja and Kalmadi, and all sorts of worthy people, who have shamed us. But the real corruption is on the ground, one that we don't really talk about. It is the fact that one out of four school teachers in a government primary school, doesn't show up. And one out of four of those who do, does not teach. Today we have 3.7 million primary school teachers and half of them are





# GURCHARAN

*das*



The teacher is not somebody who gives something to the student, but it is the student who discovers things as he or she interacts with the teacher. And that's the true idea of knowledge.

not doing their job. At a time when, after the Sixth Pay Commission, they are earning an average of 22,000 rupees a month. This is the moral failure.

And so in a sense, India has risen with one hand tied behind the back. The one hand tied is the one that confronts us everyday. The tied hand is a metaphor for those absentee school teachers. It's a metaphor for the type of education that we deliver. A Chinese businessman told me that the nightmare of the Chinese leadership is this: "What if that second hand got untied?" Today, about five per cent of Indians get a good education, and another 15 per cent get a reasonable education. But 80% get a very bad education. And that's the metaphor of the hand that is tied behind the back. And if that hand got untied, what a formidable country we would be!

At this conference about the schools of tomorrow, I want to give you my own personal thoughts about the schools of tomorrow;



**SCHOOL OF  
TOMORROW** 7th DISCUSSION  
New Delhi  
The ASER Conference on the Future of School Education  
SPECIAL FEATURE


**I am convinced, that we should not put down children who speak Hinglish. For within 50 years, we are going to produce a Shakespeare in Hinglish. Then, it will become a proper language.**

about what the purpose of education is, and what makes for a good education. In my view, it comes down to nurturing five potentialities in us all: self-confidence, ambition, curiosity, responsibility and integrity (dharma). Self-confidence and ambition.

#### RAJU AND 400 WORDS OF ENGLISH

When I took early retirement from my corporate career, I decided to go on a Bharat Darshan. On one of my trips, I went from Chennai to Pondicherry. On the way, we stopped for coffee in a village. The 14-year-old boy serving us was called Raju and he told us that he was earning 450 rupees a month. He seemed very proud of an amount that I thought was very little. Then he explained that, at 6 p.m. every day, when he finished waiting on tables, he went to the neighbouring village for computer lessons. Which also cost 450 rupees a month. So he had made a perfect deal!

Then he said very quietly, that he plans to grow up and run a computer company. I said, "Raju, where did you get this obsession with computers?" And he says, as though I should have known the answer all along, "I'm going to be Bill Gates." I ask, "Well, why?" He says, "I want to be the richest man in the world." That was the answer of a 14-year-old low caste village boy in Tamil Nadu.

Raju partly explains why India has become the second fastest growing economy. Self-assurance and ambition are evident.

As I was leaving this cafe, he said to me, "You know, I've figured out

the secret of success." I said, "what is it?" He said, "First you must learn Windows. Second, you must learn 400 words of English." I asked, "Why 400 words, Raju?" He says, "To learn TOFEL." Now I didn't know that one needed to know only 400 words to pass TOFEL, but Raju believed it.

And there, along with self assurance and ambition, we see mental liberation. Raju's mind has been liberated, has become decolonised. This is exemplified in his attitude to English: when we were young, we HAD to speak English in a certain way. For Raju, it is 400 words, and it comes second, after Windows!!!

The rise of Hinglish is also partly because of people like Raju. We have always mixed the words of our mother tongue and English, for generations. However, earlier, it was the lower classes expressing upward mobility, of entering the echelons of the middle and upper middle classes. Now, hinglish is the fashionable language of South Delhi, Bombay and Bangalore.

So, what we have is a mental liberation in attitudes. And I am convinced, that we should not put down children who speak hinglish. For within 50 years, we are going to produce a Shakespeare in Hinglish. Then, it will become a proper language.

So, for me, Raju is expressing the self-confidence of India; the ambition of the young people; and that the hypocrisy about money has disappeared. We always loved money, but during the socialist raj, we were too hypocritical to express it; and now people call it greed, or whatever-have-you. But I believe



that the desire for money is an expression of achievement, of ambition.

### MAKING A LIFE, NOT A LIVING

The second idea that I want to express is the difference between making a living and making a life. Most middle class mothers and fathers want their children to go to school so they can get a good job and "be settled". However, as we overcome our middle class insecurities, we will understand that education is not about making a living, but about making a life.

What do I mean by "making a life"? I mean that education is the preparation for a flourishing life. A person who is uneducated depends on his or her own experience. What education does is that it allows a person to learn from the experiences of others. The more we read, the more we learn from the experiences of others. Therefore, the whole idea behind the notion of "Great Books".

The best thing about an American undergraduate education is that you are made to read the great books. For the first two years, no matter whether you're going to be an engineer, a doctor, a scientist, or whatever else, you have to go through a general education programme. This is basically a programme of learning the humanities, the social sciences by reading lots of books. This is how the Great Books Programme was created, almost a hundred years ago, at the University of Chicago.

I would suggest that you google 'Great Books Programme' and look at the hundred greats that will pop up. You can decide for yourself and

for your children, which of these books you and they would like to read. When you read those books you learn to interrogate a text. This is what I did, over the last six years. When I went to Chicago and became a student again, and interrogated the Mahabharat. Out of that came the book, *Difficulty of Being Good*.

The idea is to breathe life into a text, and learn from the experience of others. It is to really think, "What if I had just three months more to live? How should I live these last three months of my life?" And live every day like that.

I was lucky that I got a scholarship to Harvard, as an undergraduate. At that time, Indians hardly went abroad. If they did, they went to Oxford and Cambridge because they had connections through their parents or whatever.

My father was an engineer. So, I thought I should become an engineer, like my father. Very quickly, when I entered college, Harvard told me, "Oh, you're in the wrong college for engineering. That one is down the river, called MIT." So I switched to Chemistry; Watson had just won the Nobel prize and so I wanted to be an organic chemist.

Then, I came home that summer, and for the first time I saw the poverty of India. I returned determined to study economics, feeling sure that that was the only way we're going to do something about this poverty. But in my spring semester of my second year, I was enticed by history and literature. So I switched my major once again, from economics to history and literature. And then in my third year, I suddenly began studying

**SCHOOL OF TOMORROW** 7th December  
New Delhi  
The XCEED Conference on the Future of School Education  
**SPECIAL FEATURE**



Education is the preparation for a flourishing life. A person who is uneducated depends on his or her own experience. education allows a person to learn from the experiences of others.



**SCHOOL OF TOMORROW** 7th December  
New Delhi  
The 2010 Conference on the Future of School Education  
**SPECIAL FEATURE**



In my case exploring so many areas of interest, and following the lead of my curiosity happened by accident, you can do this by design. And that is what making a life is all about.

architecture. And then suddenly switched to Sanskrit!

By now, my parents were really beginning to worry. My mother had a neighbour just across the fence. Every few months she would ask, "How is your son doing?" After a while my mother says she stopped telling her what I was doing, because she was so embarrassed.

But the point of my story is that, though in my case exploring so many areas of interest, and following the lead of my curiosity happened by accident, you can do this by design. And that is what making a life is all about.

#### **RESPONSIBILITY: THE STORY OF KAMBLE**

When I was working at Proctor and Gamble, there was a temporary security guard in the evening, from Akola district, called Kamble.

Kamble was an amazing fellow: within two months of his coming to our company, the evening shift in our company improved, and became far better than the daytime company.

Why? Because Kamble took charge of everything. He was a temporary security guard, but he taught himself how to run the Telex machine. He taught himself how to run the fax machine. He could use the switchboard. And run a projector.

Basically, if anything went wrong in the evening, everyone said, "Ask Kamble" And things would be set right. Then, after six months, our telephone operator went on maternity leave, and Kamble asked the head of HRD (Personnel) to give him a chance. To which he was

posed the question, "You have a temporary job, Kamble, why do you answer the phone so promptly on the second ring?" He had an amazing answer: "I think it might be a customer; you might lose an order."

Now imagine a fellow, who is not a graduate, but knows instinctively why the business exists: it exists because of its customers. Our Finance Director wouldn't have been able to answer that question, because our Finance Director would forget that the company exists because of the customer. That is what I call the notion of responsibility.

#### **YUDHISTRA AND DHARMA**

The best way to illustrate the idea of integrity, which we call dharma, is through a couple of short stories from the Mahabharat.

Now, everybody's favourite character in the Mahabharat is Karna or Karan. He is such a tragic figure, that I don't know why mothers give name their children after him.

You can understand naming a child Arjun. Arjun's a winner. So every fifth son in India is called Arjun. Yet nobody is called Yudhishtira. Anyway, mothers have chosen to have successful sons, rather than good sons.

You know the story of Karna. He was Kunti's son. Born illegitimately, she puts Karna into a basket and floats him on the river, from where he is picked up by a charioteer. Thus he, a royal prince, grows up as a Suta Putra or a charioteer's son. In today's day of affirmative action, we would call him an OBC. So he grows up an OBC but he has enormous talent and ambition and



soon becomes the greatest warrior of his time.

He falls in love with Draupadi. Drupadi's father decides to hold a swayamvara, which he attends. Because Drupadi is beautiful, all the princes and the kings vie for her hand. It's a very difficult contest and everybody fails in using a heavy bow to strike at a moving target. Only Karna succeeds, and he thinks he's won a royal princess.

When he goes up to her, expecting to be garlanded, she says, "I won't marry a Suta Putra." His face drops. And there's a whole sidestory in the Mahabharat, of his unrequited sexual yearning for Draupadi.

Now he desperately wants the world to believe that he's a Kshatriya. He's a great warrior, but he is constantly slighted. As we today constantly slight the OBCs. In fact, in rural India, if you want to slight or abuse a person from the low caste person, you call him a Suta Putra.

Fast forward. You remember a moment in the Mahabharat when the war becomes inevitable: the Kauravas do not return the kingdom back to the Pandavas as they had promised. Krishna, realising that the Pandavas are going to lose with Karna against them, decides to go try and make Karna switch sides.

He tells him, for the first time, that he is not a Suta Putra, but a Kshatriya. "You're not just a Kshatriya; you are a royal Kshatriya. Not only that, you are the eldest. So, with you and Arjun on our side, we will conquer the earth. We will win this war, and then you will be king and Draupadi will be yours."

Imagine, everything that he's always yearned for being offered to him in one go!

But he doesn't switch sides. Instead he says to Krishna: "Your mother is not the one who gives birth to you; she is the one who brings you up."

What a wonderful statement. That exemplifies integrity.

Mahabharat is a dark tale. There's a war. Everybody dies. And the winners have to rule over an empty kingdom, for 35 years. But in this dark story, the Mahabharat snatches victory in moments like these when it teaches you what is real dharma.

At the end of the epic, Yudhishtra is walking to heaven, when a stray dog attaches itself to him. When they reach heaven, Indra comes out and says, "Welcome great king." And Yudhishtra, instead of going into heaven, says, "But what about this dog?" Indra says, "He's not even your dog. He's just a dirty street dog. Besides this is heaven. No dogs are allowed." And Yudishtra wonders what kind of place heaven was where the ABC of dharma is not understood; that if somebody comes to you for refuge, you help them out.

I think our education should anchor us with this sense of dharma; that every child in every school of tomorrow will understand the meaning of dharma illustrated in these stories. Maybe more mothers should name their children 'Yudhishtra' who says "I act because I must". ■

**SCHOOL OF TOMORROW** 7th December  
New Delhi  
The ASSED Conference on the Future of School Education  
**SPECIAL FEATURE**

Our education should anchor us with this sense of dharma; that every child in every school of tomorrow will understand the meaning of dharma illustrated in these stories.



**GURCHARAN DAS** is the author of *The Difficulty of Being Good: On the subtle art of Dharma* (Penguin 2009) which interrogates the epic, Mahabharata, in order to answer the question, 'why be good?' His international bestseller, *India Unbound*, is a narrative account of India

from Independence to the global information age, and has been published in 17 languages and filmed by BBC. He writes a regular column on Sundays for the Times of India, Dainik Bhaskar, Eenadu, Sakal and other papers and periodic guest columns for the Wall Street Journal, Financial Times, Foreign Affairs, and Newsweek.

Gurcharan Das graduated with honors from Harvard University in Philosophy, Politics and Sanskrit. He later attended Harvard Business School (AMP). He was CEO of Procter & Gamble India and later Managing Director, Procter & Gamble Worldwide (Strategic Planning). In 1995, he took early retirement to become a full time writer. He is currently on the boards of a number of companies and is a regular speaker to the top managements of the world's largest corporations. His other literary works include a novel, *A Fine Family*, a book of essays, "The Elephant Paradigm", and an anthology.

Gurcharan's blog: [gurcharanddas.blogspot.com](http://gurcharanddas.blogspot.com)



**SCHOOL OF  
TOMORROW** | 7th December  
New Delhi

The XSEED Conference on the Future of School Education

**SPECIAL FEATURE**

# INNOVATION IN SCHOOLS

Peter Senge, inarguably the defining management thinker in the last 25 years, talks about deindustrializing school education: 'Attempts to improving our education system must start with uncovering assumptions that treat schools as machines instead of the living systems they are.'

Illustration: Amruta Patil

**S**chools are cultural archetypes. I am going dwell on a few general ideas about the context in which modern day schools have begun and focus on what we are learning from lots and lots of schools which are actually creating a different kind of environment. This has been going on for many years in the public school system in the US, not just in private schools. Especially in the last decade or so, there has been a real effort to move these innovative schools into the poorer parts of the cities and regions.

We have found that when things are actually challenged and people are having difficulties, they are much more open to basic innovation.

PETER  
*senge*



Illustration: Amruta Patil





What does basic innovation look like in a school? We do not have to think very long to recognize the disconnects. We all know a lot about learning. The more we think about nature of learning itself, the less likely we would be satisfied with the inside of schools. In other words, if you were to start off with how do human beings learn, almost the last thing that would come up is the modern day design of the school.

#### THE INHERENT NATURE OF LEARNING

Learning takes place through action. It is the only way we've ever learnt anything. We did not learn to walk by listening to somebody talk to us about walking; we did not learn to ride bicycles by listening to lectures on gyroscopic motion. We did not learn to talk by somebody giving us a speech lesson. We learnt through doing.

Learning is highly contextual. To learn what matters is in the context that matters.

Learning is always about becoming who I might be. Learning deep down is always a developmental journey that is fundamentally grounded in the remarkable variety of human expression. Learning is not about becoming someone else but about becoming me. There is no one right way to walk, any more than there is one right way to ride a bicycle. Learning is inherently highly individualistic. But when we really understand the role of context in learning, learning is highly social. So there is a kind of paradox at the heart of all real learning. It is deeply personal, highly individualistic and inherently collective. For example, we learn walking in a community of walkers. Can you imagine learning



**SCHOOL OF TOMORROW**  
The ISSUED Conference on the Future of School Education  
**SPECIAL FEATURE**

to ride a bicycle if you weren't surrounded by bicycle riders? Obviously, mastering a natural language, which in many ways is a kind of an archetype of a learning process, is inherently a collective phenomenon.

The more we think about these very basics of learning, the more we look at a school and say this is truly crazy. Everybody is passive; the people in charge are the teachers. School is never about learning; it is about teaching. The whole goal of modern school is standardized outputs. Testing is a great way of determining that you have met standards. And lastly, the whole process is decontextualised. Learning is occurring in an artificial environment predominated by artificial artifacts. When was the last time you took a test? You don't have tests for being good parents; you do not have tests for being a good son or daughter of aging parents; you do not have tests for being good manager. You have practical outcomes in a real life context.

So, would you ponder for a minute and think how did we get it so wrong? How is it that the basic design of school is so fundamentally inimical to the nature of learning?

#### THE GENESIS OF SCHOOL

The school as we know it was not for created for learning. It was an institution for socialization. The school system was founded in England and was a part and parcel of the industrial revolution. Where did its students go at the age of 12-

The school system was founded in England and was a part and parcel of the industrial revolution...That is why the school was organized in grades, like a big assembly line. That is why we had bells and whistles on the wall, so that the people would get used to working in a rigid, predetermined, linear process, all controlled by the teachers.

14 when they finished the K6 school system? Those students went to work in factories. That is why the school was organized in grades, like a big assembly line. That is why we had bells and whistles on the wall, so that the people would get used to working in a rigid, predetermined, linear process, all controlled by the teachers. In a nutshell, school as a system was designed to produce a uniform output called an educated student, who could contribute in the way society wanted that person to contribute a 150 years ago, as a worker in an assembly line who has all the requisite skills but, most importantly, all the requisite socialization to fit in that assembly line.

However, the industrial age is ending. We are still producing more coal and automobiles than we have produced ever in human history. Heavy manufacturing still dominates the world's industries. But it is ending because it cannot be sustained.

The world your students will live in will be profoundly different than the world that you have lived in. Not because there is a grand design to change it but because the basic conditions, the stress of the environmental resources and the stresses on societies, simply will not sustain further mindless industrial expansion. Most of your students understand that intuitively; they are connected to the world in a way that you and I growing up never were. The students in the schools today will be the leaders who will shape a different world. That is the first imperative that we have to recognize.

So, how can schools create an environment for real learning? Can they or is the industrial age school so wedded to the past that it's impossible?

#### CHANGE IS POSSIBLE

It can all change if it starts with a vision of what is possible. Like any exploration of a vision, it is great to start with the visionaries. The biggest problem of course is that most visionaries are under 10 years of age. There is a growing network of schools in United States where there really is a transformation going on in the nature of the learning process. To illustrate, I take the example of three boys who have been having a fight in the playground.

They are 6 year olds and they are at a school in Tusan, Arizona, which has the largest concentration of what we call "system thinking" schools. They come in to resolve the situation on their own. Nobody asked them to do so. They sit themselves down in the classroom and draw the reinforcing loop that shows their exchange on the





playground. The loop shows how "mean words" led to "fights" and them "getting hurt", and led to more "mean words" and so on in a seemingly never-ending cycle. As they reflected on the reinforcing loop, each one comes up with possibilities of how the loop may be addressed so that the fights don't recur. Then they try their ideas one by one, each time they fight, assessing the effectiveness of the solutions collectively.

This is part of how children in the "systems thinking" schools learn. They learn how to organize the data of their experience to see the deeper systems they are part of. Most importantly, they are dealing with the real issue. If we think about it, these are 3 boys who have fights in a playground and if this doesn't stop, they know they are going to get into trouble: the teachers will get upset, their parents are going to get upset... But they have learned how to reflect. Their whole learning process, everything they do, is profoundly reflective. And what do you reflect on? You reflect on your experience and you have tools.

So from kindergarten (age 5), these children are introduced to basic tools of what we would call systems thinking, which is seeing the patterns of interdependence in our life. It is very natural. All children grow up in system living. The problem is that we then go to a school and encounter a system of knowledge which really has its roots in the rationalistic age of reason and revolution in England, in a Europe that preceded the Industrial Age.

Though it laid the scientific and technological foundations for the

**It is truly bizarre that you would consider an expert, someone who knows a lot about a little. Instead of someone who has a level of mastery in a domain of importance to her or himself and society...But we are busy training PhDs in some super-specialty, understood by 15 other people.**

industrial age, Western rationalism is all about fragmentation. It is about learning more and more about less and less. Everything is broken up in pieces. We call that education. It is truly bizarre that you would consider an expert, someone who knows a lot about a little. Instead of someone who has a level of mastery in a domain of importance to her or himself and society. That's what the real goal of education should be all about: healthy societies and healthy people in those societies. But we are busy training PhDs in some super-specialty, understood by 15 other people. That whole hierarchy of education was in fact shaped by the fragmentation of the age of reason. Rationality is great tool but, by itself, it will just fragment.

These children are learning to reflect and integrate. They are learning to see the world they are creating and they are learning how they can have an influence over the world they create. No one asked them to draw that diagram. It was done spontaneously. I had sent a friend from Washington in the

Department of Education to visit this school

And she said, "I had no idea 5-year-olds could reflect on their learning!" I saw children in kindergarten where, at the end of everyday, they do their behavioral time graphs. They build the graph hour by hour as they are learning and then they stand in circles. They stand tall if they learnt very well, in-between for learning in-between, and get down on the ground if they had not learnt very much. And then they talk about what was going on hour by hour that influenced their learning. So their learning is profoundly contextual. It's inherently personal and collective. And what allows this to happen is the commitment to reflection.

How is it done? How does this happens? Where there is no vision nothing will happen. We must have a deep conviction that things can really work differently. We must be prepared to let go of a lot. But you also need to have strategy; you need to have tools, methods and approaches. The work that you saw illustrated with those 3 boys in the Tusan School has been going on for over 20 years. We believe that there is a point now where there is a critical mass in that large urban school system. Those boys come from a school that has 87 % free and reduced lunch, which means it is a very poor community school and almost 90 % of the children have to have the government pay for their food., That's what the indicators say about poor communities. But they are one



school amongst about 25 in that area. That's an 80,000 person typical urban school district. There are about 10 places like that around the country that are somewhere along the journey to get to where the Tusan school is.

They focus on innovation at three levels.

First, there is the classroom; obviously it all first starts in the process of learning for the children. School is always ultimately about children. Typically in these schools, you would see a teacher rarely talk for more than 10 minutes at a time. Almost never. The children are seated at tables and they work together. The teacher puts out questions and the students talk to each other. The teacher does not stand and lecture the students and the students sit there passively like rocks taking it all in. No, the children are continually challenged to think for themselves and think together.

Collaboration is not cheating; collaboration is how we help each other learn. Work is inherently collaborative. People work together to get things done. The fundamental demand for all business is innovation and innovation never occurs individually. One of the biggest conundrum in modern education is this. The big problem with our school system is that we have hyper competitive kids; we have the stars and we have these failures. But that is not what business wants. Business wants people who can work together, to be entrepreneurial

We need to break out of the idea of a school as something that adults do to kids. This is about all of us working together to transform what goes on in a classroom or at the school and what goes on in the larger community within which the school exists. The children are the only ones who see the whole system; the teachers do not.

innovators together. That's exactly what these schools look like. So you have to innovate the classroom.

Second, focus on the whole culture of the school. The teachers in these schools are working continually on how they they collaborate. This is where our experience for 30 years on building organizations as learning communities comes to play directly. How you create the school as a learning community? This is where the work of a principal and the other formal leaders are absolutely vital.

Lastly focus on how the school relates with the larger community. This is the most neglected area. Keep in mind that learning is very contextual. These children come from homes where, by and large, there is no father. They come from settings where people do not have good food to eat. One of the first things that the school did in its own journey was to open up organic gardens. Then they opened up a market where the children

were selling food to their community. In so doing, the children become active agents in helping their own families eat better. It is a small example. Even at very young ages, if you really see the children as leaders -- this is I think is ultimately the deepest shift in culture. Seeing children as leaders

No one sees the students as active agents in transformation of school. We need to break out of the idea of a school as something that adults do to kids. This is about all of us working together to transform what goes on in a classroom or at the school and what goes on in the larger community within which the school exists. The children are the only ones who see the whole system; the teachers do not. I am not saying that teaching is unimportant. But we have to give up the notion that this is about adults fixing things for kids.

#### WHAT ABOUT INDIA?

Now, I am speaking in generalities obviously, from a context which I know well, which is innovation in schools in US which is profoundly different from your context. How do you innovate when you are talking about 700,000 villages? How do you innovate when there is a natural tendency, particularly in a post-colonial culture, to see everything about getting to where the advanced countries are? How do you innovate when you have an enormous financial stress, increasingly the problem of schools all over the world?

**Focus on collaboration:** Our schools have gone way overboard in competition not just within the schools but between the schools. How do you build networks of





collaboration? What we are doing today in the Tusan area is to connect the schools together, connect them up with the national and, increasingly, with an international network. They have a big gathering in the summer in July for the first time, where Tusan schools will host people from all around the world.

**The spirit of this change has to be:** we need profound changes in system of education; no one has the answer; the only approach is to learn together; the only approach is to learn to acknowledge the children as well as adults as leaders and then to embed innovation in the community as a whole. This requires tools and methods. There has been a well-established body of methodology and strategy invented in those schools at Tusan. It is not by accident and has been built over 20 years. You could visit a lot of schools and you would see the same kind of developments. It involves a network of innovators and, ultimately, involves bold ideas.

**Focus on qualities needed for the age to come:** The industrial age is ending. The school in the industrial age is a great way to prepare kids for yesterday but we don't know what succeeds the industrial age. Human beings are part of the living world; the industrial age is an age of machines. The school system in some ways was the archetypal institutional machine to crank out graduates with a standardized formula and a standardized template. The school of the living world that we are moving into, the age of living systems, will be much more like a community than a machine at every level.

We do know some of the qualities of the age to come. Human beings

The school of the living world that we are moving into, the age of living systems, will be much more like a community than a machine at every level.

will need to learn to live in harmony, as we have always needed to learn in harmony throughout our history, in harmony with our larger natural environment. We have to learn to live in harmony with the diversity of cultures which make up for this wild and crazy global industrial economy we have created.

**Let the children lead as well:** Moreover, it will be a world based on the principles of living systems. The children are much closer to those principles than the adults; they simply haven't been socialized to the extent the adults have been. So, not only do we need their leadership from the standpoint of their energy and passion, we need them because they are closer to the way of living together that is innate in us human beings.

But first of all who needs to know more about the current system in school than anybody, but the students. They are the only ones who see every class; they are the ones who go from classroom to the playground; they are the only ones who go from school to the larger community. They are the only ones who see how the whole system works. Plus who has more of an anchor in the future? Adults who are 45-years-old or children who are 12-years-old? Who is more likely to be in tune with a very different future? That world no longer exists. So why schools are

still so anchored in the past. Creating conditions for sustaining basic innovation in school is much harder than it is in business. In general, the complexity in a school is much greater as an institution and as a system than the complexity of business.

School is profoundly anchored in the past and the anchors are in us. ■



#### PETER SENGE

*The Journal of Business Strategy* (September/October 1999) named Peter M. Senge one of the 24 people who has had the greatest influence on business strategy over the last 100 years. *The Financial Times* (2000) and *Business Week* (October 2001)

have rated Senge one of the Top Ten Management Gurus.

A Senior Lecturer, Leadership and Sustainability, MIT Sloan School of Management, Senge has lectured extensively throughout the world, translating the abstract ideas of systems theory into tools for better understanding of economic and organizational change. We owe the very idea of the learning organization to Senge.

Senge has worked with leaders in business, education, civil society, health care, and government. Senge is the founding chair of the Society for Organizational Learning (SoL), a global community of corporations, researchers, and consultants dedicated to the "interdependent development of people and their institutions."

He is the author of the widely acclaimed book, *The Fifth Discipline: The Art and Practice of The Learning Organization* (1990) and, with colleagues Charlotte Roberts, Rick Ross, Bryan Smith and Art Kleiner, co-author of *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization* (1994) and a second fieldbook *The Dance of Change: The Challenges to Sustaining Momentum in Learning Organizations*. In September 2000, Senge co-authored a fieldbook on education, the award-winning *Schools That Learn: A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares About Education* (2000).



ASHISH

*rajpal*





**SCHOOL OF TOMORROW** 7th December New Delhi  
The XSEED Conference on the Future of School Education  
**SPECIAL FEATURE**

# THE LIGHT TO EDUCATION

How a simple multi-step learning process of action followed by reflection and feedback could replace the one-step 'telling' prevalent in most classrooms and how genuine innovation is possible at scale.

Illustrations: Amruta Patil



**T**hese days there is a lot of talk about the Right to Education Bill, which I think raises all kinds of emotions in all kinds of people, depending on where you sit in the social spectrum. I personally congratulate the intention behind the bill.

However, before we give anyone a right, we need to know what that right is about. Do we understand what we wish to do with this right? What does it mean to educate in the school of tomorrow?

Our scriptures tell us that to go forward it is sometimes useful to look back; if you don't know where you are coming from, it is unlikely you will know where you are going. So, I share what I have learnt about education in schools over the last 10 years. I do so with a view to understanding what we should do about it tomorrow.

Specifically I'm going to dwell on four things. First, I will look at what we have learnt about the process of learning and the human mind.

Second, I re-visit the process of teaching. (Learning and teaching may be two sides of the same coin, but they are not the same thing.) Then I'm going to talk about the solution, which we think is working.

We do not profess to have all the answers but we have stumbled upon a few truths, which may be of some use. Finally, I reiterate that nothing can happen without a great team. Almost everything we expect from children, we should first expect from ourselves.



### THE MARSHMALLOW EXPERIMENT

A few decades ago at Stanford University, a famous experiment was conducted, which has since come to be known as the "Marshmallow Experiment." Marshmallow is an American term for a sweet made of corn, syrup and gelatin, which children like a lot. The experiment was as follows.

Four-year-old children were told: "I will give you one marshmallow right here at your table. You have two choices; you can eat this marshmallow

or you can wait for 15 minutes. When I come back, I will give you a second marshmallow. That means you can have two if you wait for 15 minutes."

Two-thirds of the children were unable to wait for the entire 15 minutes. One-third of them did. The researcher in question tracked all the children for the next 4 decades over various parameters—social relationships, SAT scores, jobs, socially adjustments, etc. On almost all, the children who could wait did far better than the children who could not. (The videos of the "Marshmallow

Experiment" are available on Youtube.)

What is even more interesting is that, when the children who could not wait were taught some ways on how to wait, many of them were able to learn to wait longer. Children could be taught how to engage with the problem of waiting for the marshmallow. This illustrates our first fundamental insight: the act of educating is the act of engaging. Can you wait for the marshmallow for 15 minutes or can't you? Can you stay till you get that job or can't you? Or can you wait till you find that girl or can't you?

### PREPARATION FOR LIFE IS THE PREPARATION TO ENGAGE



This concept of education is somewhat contrary to the popular notion that education is the act of "giving" to the child. What we have learnt instead is that education is not about giving; it is almost all about receiving. Only when you do so, are you prepared to engage in the world around you.

A poor preparation to engage is a poor preparation for life. A system of education where everything is done for you in advance, albeit with the best of intentions, is an extremely poor preparation for life.

If someone did your homework for you, mommy shoved all the food in your mouth, and your grandmother came in whenever there was a fight in the house, you begin to think life is unfair when you are suddenly expected to find your own job, spouse and life. For many centuries the act of educating, or the act of schooling, was seen as giving instructions so that you could do what your superior told you. So why is this not good enough anymore? Is "learning" just a fashionable new word that has come into play in education? What was wrong with memorizing from the blackboard and from fat black and white books for years? What has changed?

What has changed is that having the same set of rules of knowledge for our entire lives is not good enough any more. There was a time when only 5 to 10 percent of the population was expected to be educated; today we expect education for all of India's 300 million children. Now, the world is flat and globally competitive. And so, learning is now about making

mistakes, finding out for yourself, and figuring it out.



Figuring out is "learning". Instead of a one way filling up with information, you now need constant action and feedback. You act, get feedback and take a new action based on the feedback. For the most part, the traditional school has neither action nor feedback. There the process is primarily about absorbing someone else's action-and-feedback as opposed to figuring out your own learning. In the last 30 years we have learnt that the brain learns when it is engaged in an environment; existing structures loop onto new information to make meaning. Further, we really learn only when we are surrounded by a supportive environment. This has a very radical implication for what we want education to be.



## BEFORE YOU HELP YOUR CHILD, KNOW YOUR CHILD

My own interest in education was sparked by the birth of my two children. One can't shut up, is great with math, wants to do things, and break them down. The other may say one sentence in a day, could read a book in a night, can paint, and can play the piano like a magician.

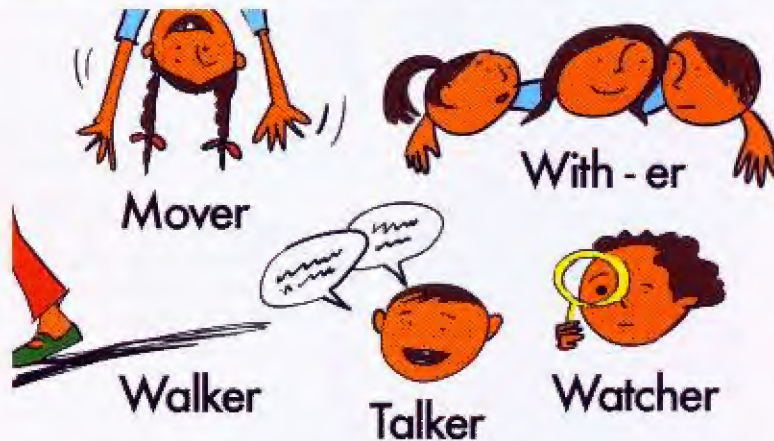
Howard Gardener's work helped me realize that these differences are what makes the challenge of education more demanding. However, only when I stepped into the classroom did I realize that you need to understand these differences in children in a very palpable way to do something about it.

I saw five kinds of children when I stepped into the classroom. There was this guy who could not stop moving, had to go to the bathroom often, had to fidget, had to break things, whom I call the "mover." There was the girl who always needed company, to be with one or two people, her

relationship with the teacher mattered a lot, was very gentle and sensitive, the "with-er." Then there was the quiet one at the back, who knew exactly what was going on, never had much to say, but if you asked a question almost always knew the answer – the "watcher". The "walker" was the one who knew what he wanted to do, was impatient, wanted to lead every activity, and was walking ahead of the class each time. And finally there was the "talker", who couldn't shut up and went yak-yak. Running a 45-minute class in a room where the fans don't work and

you don't know what the children did that morning, with all of these differences is a big challenge.

**Quick Test 1:** Imagine these 5 kinds of children when you walk around a school, and ask yourselves where you see these children smiling more—in the classroom or in the corridor? Why? Might there be something you would want to do about it?



## TEACHING IS NOT TELLING

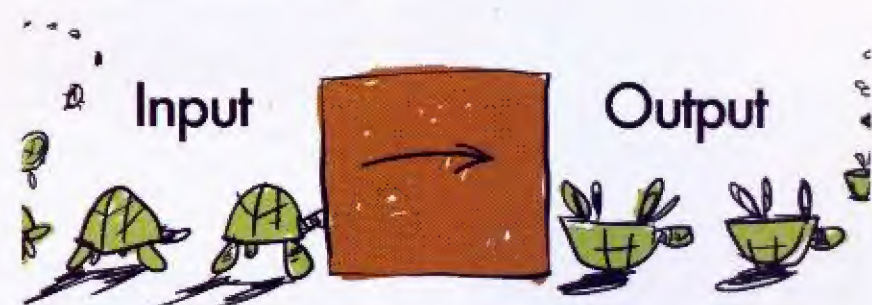
A theoretical understanding of learning is important, but not enough to solve the problem of education. To do something constructive about schooling, you need to have a definitive solution to the problem of teaching in the classroom.

For me, a defining experience was studying with Eleanor Duckworth. A professor at Harvard University, she ran classes in a hands-on and experiential way. She would make us do permutations and combinations exercises with clips, area and volume exercises with chocolate bars, and make us watch the moon late at night to observe its shape and the direction of the "rabbit". It was an astonishing experience in hands-on learning.

When we talk of ideas like "experience-based learning" or "child-centered classrooms", it is easy to get overwhelmed by the complexity. Sometimes having simple visible indicators of what signifies "quality" is helpful. One such indicator is the amount of time the teacher spends talking in class versus the time children talk. In most traditional classrooms teachers talk almost all the time, and children have to "keep

quiet" or "pay attention". A classroom where at least half the time is devoted to the children expressing their questions and reflections is a very different classroom.

**Quick test 2:** When you walk around your school and stop by in a classroom, note what percent of the talking is being done by the children.





## QUALITY IN EVERY CLASS, FOR EVERY CHILD

But how do you spread this kind of teaching? When we first started, our hypothesis was: "India has 5 or 6 million teachers that you can't push away. You have to invest in them, to teach them. High quality in-service teacher training will change this world."

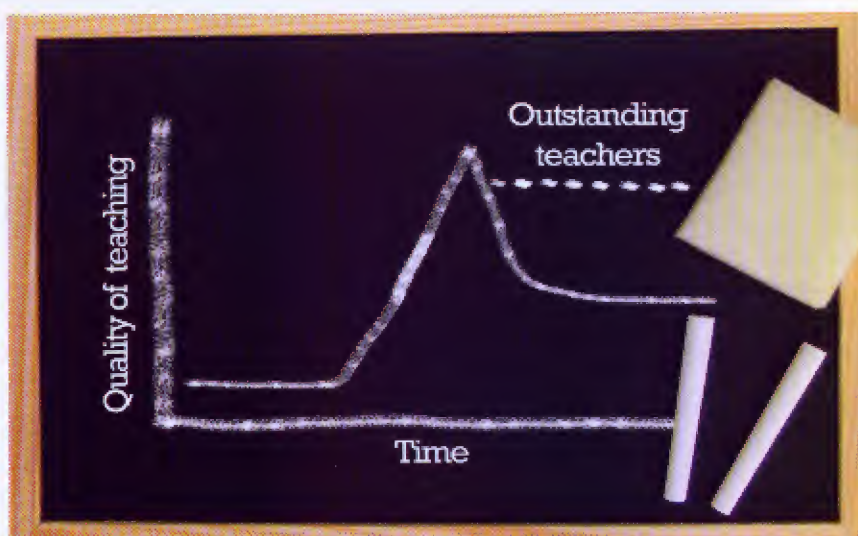
So we designed all kinds of teacher-training programs. We were very passionate about it, and got great post-program feedback. However, when we returned to the schools six months later and looked for changes in the classroom, we found that most of the teachers had gone back to their old ways, or never changed in the first place. We had to look for an answer elsewhere.

Entering the classroom, and beginning to teach changed everything for me. I realized that teaching a 45-minute period to a class of 40 children is very hard work and needs enormous skills if it was to be done well.

I remember visiting a small school in Karnataka where the young teacher, instead of being typically restrained, asked me: "Sir, can you teach this class better than me?" And then I realized that if I could not teach a better class than her, I am useless to her.

## BREAK UP THE PROCESS, AND SHOW ME HOW

If you are not happy with what the teacher is doing, you have to give her the tools and skills she can productively use in the classroom. This is the premise on which we rebuilt our work. We built a simplified model that addressed five critical questions. Can we ensure that the purpose of every



The God is in the details! We needed a detailed algorithm for what construes better teaching for every lesson in every subject for every class.

This remains a challenge for schools around the world. In fact, *Waiting for Superman*, the new movie on the state of US schools has one message: Great teachers need to come into education. However, what is a great teacher and how do you make one? That question remains unanswered. Even if you look at Teach for America or KIPP schools, two remarkable school-improvement experiments with results to show, the fundamental issue of how to get consistent quality in every classroom remains elusive.

The recent McKinsey report on education corroborates this. It studies about 20-odd school systems from around the world that have shown very significant improvement in learning (The MP government system is one of them).

To me, the single most striking conclusion the report makes is that, in the discourse of school improvement, there is far too much on "resources" (people, material, infrastructure, etc.) and "structure" (new organization, new levels, etc.) and almost none on process. Once we know what a good teaching process is, we can go about spreading it. Otherwise, the blind are leading the blind.

lesson is clear to the teacher and the learner? Can each lesson begin with some hands-on activity? Can children's ideas and talk be taken more seriously? Can practice be made both meaningful and rigorous? Can assessment be used for continuous feedback, to improve the child's skill and competence?

The challenge is to do this in every

class for every teacher. This requires a lot of preparation. That is why we created a lesson plan for every learning outcome, for every subject, for every grade between kindergarten and Grade 7. That is close to 8000 lesson plans! To that we added matching workbooks for children (to enable the process of reflection in the classroom) and a regular assessment and feedback tool.

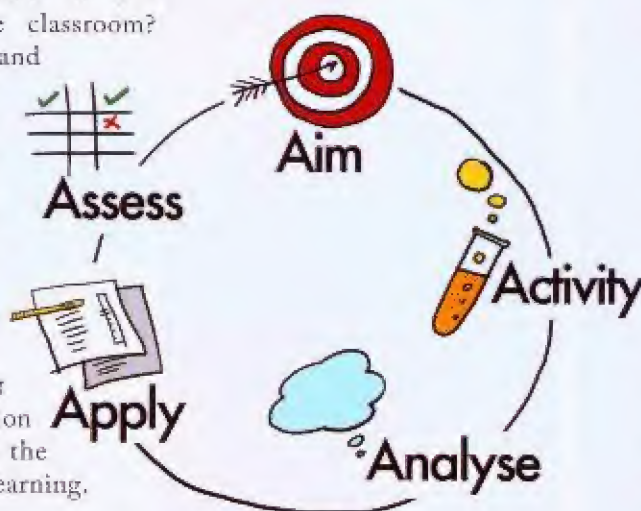


**SCHOOL OF TOMORROW** 7th December  
New Delhi  
The 43rd ED Conference on the Future of School Education  
**SPECIAL FEATURE**

Only once you have the tools, is training of some use. We run a professional development program for both teachers and leaders. A major focus area is classroom management and conversations with children. What is the conversation in the classroom? Between the adult and the child, amongst the children themselves, and within each child's head? Teachers are trained to draw children out to speak more. Doing activities or worksheets is not enough; the conversation after the activity is the most critical part of learning.

When we first pilot-tested this model (as the XSEED Program),

we saw some astonishing results -- 20-30 points increase in scores, with the "bottom half of the class" jumping more dramatically. We started with 3 schools and now are in about 400 schools across India.



We have commenced broad-based studies, including a longitudinal one over several years, which will document and publish the results more formally. From what we are seeing within matched control and test groups, over a six-month period, the number of "XSEED children" who migrated to the top tertile is very significant. Which means children who were performing more ordinarily did much better post-intervention. Most "official" reports say it takes 4 to 5 years for change to show. I think we can do it in a shorter time.

In essence, we have begun to change the discourse from "good teacher - bad teacher" to "good teaching-bad teaching", which is actually a very enabling thought.

## MULTIPLE HEROES



If change has to come, it is critical that principals enter the classroom and lead by example. It is also very important to have more than just one leader in the school.

The idea of collective leadership and having many heroes in the same place is crucial and that sits uneasy with our patriarchal system of thinking.

Whatever we have achieved in the last decade is because we have been able to get an astonishing group of people to work together. The only thing I can take some credit for is that I have been able to get people far smarter than myself to surround me. I think schools need to have that culture.

Wherever I see change, it is when leaders have been able to replicate themselves. But this is not happening fast enough.

If each one of us can make a commitment to replicate ourselves in some way so that someone else can start taking charge, then perhaps each one of us can move towards that school of tomorrow, and there can be a million schools of tomorrow all over our country. ■



**ASHISH RAJPAL** is the co-founder and CEO of iDiscover Education. He has lived and worked in places as diverse as Russia, France, India and the USA. He has an M.B.A. from XLRI and an Ed.M. (Mind, Brain and Education) from Harvard

University. Drawing upon his inter-disciplinary background in education, management and cognitive psychology, Ashish has done innovative work in the areas of school curriculum, teacher education, leadership, and creativity.



**SCHOOL OF  
TOMORROW**

7<sup>th</sup> December  
New Delhi

The XSEED Conference on the Future of School Education

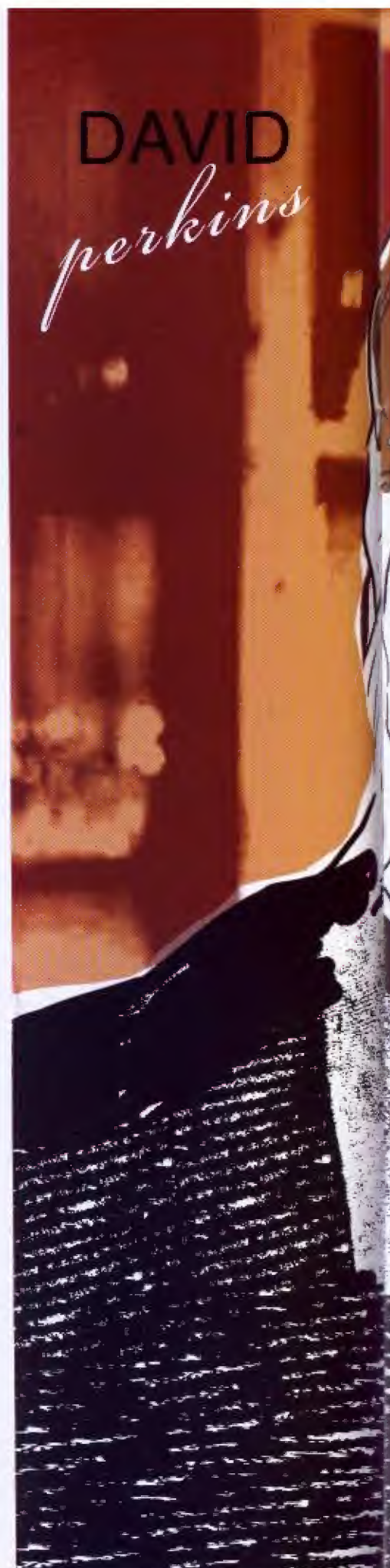
**SPECIAL FEATURE**

# EDUCATING FOR THE UNKNOWN

David Perkins, Senior Professor at the Harvard School of Education talks about imbibing the spirit of flexpertise to teach for the future

Illustrations: Amruta Patil

There are many harsh realities that the contemporary education of innovation has to face. That said, I think we need idealism. But we need streetwise idealism: idealism that is smart about reality without simply submitting to it. So let us explore an idealistic vision of what education might be, towards a stronger vision of education.







## THE WORLD TODAY

The world we live in is becoming increasingly complex. We have digital communication, transportation, and biological revolutions underway. A characteristic of this era is that we are moving from well-structured problems to ill-structured problems like the ecological fate of the earth, complex themes about the nature of poverty and how to deal with it, and our troubled economic systems.

Second, the world is becoming smaller because of technological developments. "Cosmopolitanism" (the appreciation for the complexity of the world), world citizenship (what it means to be not just a citizen of the nation but a citizen of the world), and soft nationalism (representing a real identity while being respectful of other identities) are assuming importance.

Accompanying this perspective—taking (seeing things from other people's points of view) and ethical commitments that have a global reach, rather than just a local and regional reach, and responsible activism have become important. We are also living in a world that demands continuous learning. Traditional educational systems, which are still very much with us, are founded on the premise that we can educate people in the first few years of life: once you have passed in school and finished with a doctoral degree, you are educated for the rest of your life.

However, with people engaging in multiple careers and roles, and with the lifespan being substantially extended, it makes



**SCHOOL OF  
TOMORROW** 7th December  
The XSEED Conference on the Future of School Education  
SPECIAL FEATURE

Photo: Youreka.in



Since we do not receive postcards from the future, the future is in largely unknown. What we need is that spirit of flexpertise, not just expertise. What we need is educating for the unknown.

no sense in the long-term to think of education as just a matter of something you wrap up in the first 3 decades of your life. There is also a knowledge explosion, leading to deeper and broader disciplinary and interdisciplinary knowledge building. Within this context, learning to think (in order to manage this intricacy), and learning to learn (because learning will be an enterprise that we need to pursue throughout our lives), becomes increasingly important.

What do these challenges mean for our endeavor as educators?

**THE PROBLEM WITH SCHOOL:  
IRRELEVANCE**

The design of educational systems has an obsessive pursuit of technical depth. Though teaching disciplines like science, mathematics, history and literary studies are tremendously important, the typical structure of curricula throughout school and into college looks inward. By tending to focus exclusively on an increasing technicality, it fosters something tremendously important—expertise. But very often, it is the nature of this process that we study things that speak to the technicalities of the discipline, but do not speak to our larger lives.

For instance, the typical science curriculum is constructed out of science's greatest hits. Some of those hits speak better to the lives we live than others. Consider what it would be like if we taught the disciplines such that disciplinary understanding speaks to our complicated lives in today's world. Suppose we taught for

“flexpertise” rather than just expertise. Suppose we taught flexible and creative use of disciplinary knowledge so it speaks to our roles as citizens, family members and professionals. What kind of an education would that create?

**EDUCATING FOR THE UNKNOWN**

The traditional structure of education is educating for the known. It is about passing along the laws established in the disciplines, and a fair amount of that is tremendously important. But imagine that we received postcards from the future and knew what the world was going to be like in 20-40 years. That would give us plenty of reason to reconsider what we teach today and how we teach it because we would know better what was coming.

Since we do not receive postcards from the future, the future is in largely unknown. What we need is that spirit of flexpertise, not just expertise. What we need is educating for the unknown.

**HOW DO WE EDUCATE FOR THE  
UNKNOWN?**

Educating for the unknown is a paradoxical notion. Since education is grounded on passing along knowledge, how could you possibly educate for the unknown?

But actually it is not such a hard question. What it might mean is educating for thinking, learning and for big ideas that help us look at a complex world, roughly forecast what is going to happen and be ready as knowledgeable problem finders and problem solvers to engage the unknowns as they unfold. To do this, we must



**SCHOOL OF TOMORROW** 7th December  
The 2020 Conference on the Future of School Education  
**SPECIAL FEATURE**

keep our sights on three themes: Imagining knowledge destinies, choosing better knowledge destinies and teaching for better knowledge destinies. Imagining knowledge destinies:

A knowledge destiny is where knowledge is going. When we teach something, our students learn at least some of it. But where does it go then? Is it retained? Is it used actively? Is it still there a decade or two later? To ask these questions is to ask for a story of knowledge destiny. The easiest way to look at knowledge destiny is actually backwards, by asking what you remember still today and where it came from. For example, when I asked these questions to someone a few years ago, he talked about the French Revolution, saying,

"Through the French Revolution, I was able to understand the generalities of world conflict, (for instance, how the lack of freedom, poverty, over-taxation, weak economics, the struggle between the Church and state, or social inequity), has always been a reason to engage in war."

Even a topic as dry as the French Revolution became meaningful for this learner. Another person talks about what she has learned concerning energy and climate change:

"Understanding of energy and climate change issues has not only proven useful in everything from everyday decisions about my transport and consumer choices, but also in political decisions, social interactions and life philosophy."

People do hold on to things for a long time, that become meaningful parts of their intellectual, civic, family and professional lives. These are good knowledge destinies. This is knowledge that lasts and lives and shapes the lives we live.

There is no lack of powerful ideas within the curriculum we already teach, that speak powerfully to that unknown which is ever unfolding as we live our life. So, when we imagine knowledge destinies, we can't just look backwards. As educators, we need to exercise a fundamental act of the educational imagination. We need to think where what we are teaching today is going, and how it will survive and thrive.

#### THE PATH OF KNOWLEDGE DESTINY

The story of a knowledge destiny begins with a choice about what is worth learning. Somebody chooses what is taught – the teacher, the school board, the textbook, the ministry of education, etc. Often, there are choices within choices. For example, even if the ministry of education chooses the topic, we teachers have the latitude of the sub-topics or of what is emphasised about the topic. From choice, we go to first encounters.

Students encounter the topic for the first time. Beyond the first encounters, for which we teachers are responsible, there are further encounters where that knowledge of the topic is deepened, broadened, refreshed and extended. Those later encounters also shape how deeply and how broadly ideas are understood. Then, way down in the future are the actual moments of payoffs,



Photo: Luke Hackip

Understanding of energy and climate change issues has not only proven useful in everything from everyday decisions about my transport and consumer choices, but also in political decisions, social interactions and life philosophy.



Photo: Luke Haakip



Imagining knowledge destinies is the fundamental act of the educational imagination. Something that we all must do as educators because education is not about today

where that learning matters in a person's life by informing a choice, a democratic action, some professional activity, a friendship or the forming of a family.

When we tell these speculative stories to ourselves, we are always beginning with choice, thinking about those first encounters, and the later moments of deepening and broadening and about how that understanding might eventually matter in those learners' lives. We are imagining knowledge destinies.

Imagining knowledge destinies is the fundamental act of the educational imagination. Something that we all must do as educators because education is not about today. It's always about tomorrow, about the future of lives.

#### CHOOSING BETTER KNOWLEDGE DESTINIES

As educators, we always make choices about what is worth teaching. We choose what to emphasize, what is the foreground, how to treat the topic, what the sub-topics are and so forth. The trouble with choice is that many topics that are typically taught are those that do not end up where we would like them to, topics that do not have such a good knowledge destiny.

For instance, democracy is a rich topic that can live in people's lives. But it depends very much on how students engage with this complex idea, on whether it is just a few

definitions or just a chunk of history from Greece. While choosing we need to evaluate whether the topic and its sub-topics can live on and shape people's lives, or they are just more information.

Take the example of quadratic equations. It's the standard part of the math curriculum and considered tremendously important. Yet it turns out that hardly anyone uses quadratic equations unless they are in some kind of profession that demands it. An engineering profession let's say or certain scientific professions. Or for example the process of mitosis. Mitosis is the process of asexual single cell division involving a number of different phases. A couple of years ago a friend remarked that he remembered the phases but had no idea what they meant! How often do we remember bits and pieces that have lost their sense of significance.

#### THE RELEVANCE GAP

A great deal of energy today focuses on what is usually called the achievement gap. Huge energy and funding goes into trying to bring up the lower performing groups, and to attain better achievement overall. It's an important and appropriate mission. But there is a trap in the enterprise. How do we define achievement? Achievement on what? Very often what we mean by achievement is narrowly defined. Now basic literacy and



numeracy are tremendously important; but information about mitosis or quadratic equations is not necessarily so important.

Enormous time and effort is spent in encouraging students to learn things that do not have a good knowledge destiny. Perhaps we should pay more attention to another gap alongside the achievement gap, the "relevance gap". It indicates the relevance of what we teach and students learn. What should we teach toward a good life in a complex changing world? Surely that deserves as much attention as the achievement gap.

#### CHOOSING BETTER

So how could we think about making better choices? For instance, instead of spending a lot of time on mitosis, one might spend substantial time on communicable diseases and how they spread. It's an important topic and occupies a very important position in history of biological science.

Understanding communicable diseases was a huge breakthrough that continues today as we understand more and more about trickier cases of communicable diseases. Communicable disease and how they are spread easily has a powerful knowledge destiny for most of the lives most of us in contrast with mitosis.

Or take French Revolution. The French Revolution in itself is something that any of us might

study superficially, just as a bunch of facts, or we might study it in more depth to understand just what happened and why it happened. Even so, there is a difference between such understandings and the French Revolution as a lens to look at other situations like the American Revolution or the Russian revolution or the industrial revolution. Using French Revolution as a lens is a kind of knowing that has good potential for a rich knowledge destiny. The French Revolution in itself, just as an isolated object to study, not so much.

This lens is an invitation for us all. This is a request that we all think about what we teach, we all think about what choices we have and we try to make choices in a smarter way. We choose one thing rather than another thing when we can. We choose communicable diseases and how they spread rather than mitosis. Or we reframe topics for broader applicability for flexexpertise rather than just expertise. We look not just at the French Revolution but how the French Revolution speaks to the complex history of many different settings.

There are some ideas and guidelines for how to make the choice better. These are Opportunity, Enlightenment, Empowerment and Responsibility.

To understand this, let us evaluate the topic of communicable diseases in light of these criteria.



Photo: Younekain

Enormous time and effort is spent in encouraging students to learn things that do not have a good knowledge destiny



Photo: Luke Haakip



So when we think about what we teach and when we think about the choices we make, we do well to ask ourselves, am I teaching today an understanding of wide scope?

Will there be opportunity in the learners' futures to use this knowledge about communicable diseases? Absolutely. Is our understanding of communicable diseases enlightening about the important parts of the world and the lives we live? Absolutely. Does the knowledge empower us? Yes. It empowers us to manage our own healthcare and others' healthcare better. Does it help us to become more responsible? Yes. Because by giving us guidelines and by warning us of consequences, it encourages us to conduct ourselves responsibly for the sake of our families and the people around us with respect to healthcare. So communicable diseases is a very basic kind of understanding with plenty of opportunity, enlightenment, empowerment and responsibility.

Now suppose we apply these same criteria to the topic of mitosis. After a little bit of learning in biology class, are you ever going to encounter the process of mitosis in your life? Probably not. Enlightened? Yes, it's technically enlightening but it is not enlightening about things that come up in the course of our life. Empowering? I don't think so. What are we going to do with knowledge of mitosis unless we go into a technical area of biological sciences. And responsibility? Well, I am not responsible for mitosis and I don't think you are either. So again, mitosis does not score very well by the simple criteria for what makes for knowledge with a

promising knowledge destiny.

So when we think about what we teach and when we think about the choices we make, we do well to ask ourselves, am I teaching today an understanding of wide scope? Am I teaching something for which, as I imagine the future of these learners, there will be opportunity, something that affords enlightenment beyond the technical, something that empowers these young learners later in life, and something that fosters their sense of responsibility?

Now not everything we teach has to meet these criteria; there's plenty of room for technical knowledge. And it is unreasonable to ask that everything we teach meet all the criteria. But certainly, much of what we teach should offer opportunity and some enlightenment, and now and again some empowerment, and now and again some responsibility.

And how much of the curriculum is made up of things like mytosis and like quadratic equations and like conventional treatment of the French revolution. All too much.

**HERE ARE SOME KINDS OF CHOICES THAT ARE AVAILABLE TO US AS WE DO THIS:**

**21st Centuries skills like** Communication, Problem Solving, Learning to Learn, Leadership, or Systems Thinking

**Big Ideas That Matter like** democracy and its discontents



(not just democracy as a great thing, but the complications of democracy), communicable diseases and how they spread, the causes of poverty, and even the dry math subjects like probability and statistics that come up far more often than quadratic equations.

**Rich Cases, Works and Artifacts:** Particular things that can be used as lenses like the French revolution, or literary classics, or the extinction of the dinosaurs.

We can get systematic about it, but the start is simply to exercise our imaginations.

#### **AFTER WE HAVE MADE A GOOD CHOICE, THEN WHAT?**

Then, there is the first encounter with the topic. What is that first encounter like? Is it engaging, is it stirring, is it interesting? And does make clear from early on why this learning is relevant? Not always.

In fact there is some kind of trick involved here. Very often, the typical learning process in a classroom is too much like the conventional study of the French Revolution.

Even if it happens for conceptual understanding, there is no effort to see how this connects to the larger world. It's easy to study communicable diseases just as an object, as an interesting thing to understand, even study it for depth, even for gaining good conceptual understanding. But still it is not an understanding that encourages people to act; it is

not an understanding that gets connected to policy or personal conduct, or even to rules and guidelines for the school or the local village or for the nation. Those kinds of connections that turn outward, towards proactive thought and action, are often missing from the typical learning process.

There are ways of structuring the learning process that are very important to giving a conceptual understanding (that maybe a little too academic) but has real future as a powerful knowledge destiny. And that too is something we need to pay attention to.

If we do these things, if we think in this way, if we commit ourselves to educating for the unknown, not just for the known. If we commit ourselves for conception of learning as flexexpertise as much as expertise, if we crank up and activate our educational imaginations for the sake of the future, then, educating for the unknown, not just the known, is something that I believe we can truly achieve. ■

There are ways of structuring the learning process that are very important to giving a conceptual understanding (that maybe a little too academic) but has real future as a powerful knowledge destiny.



**DAVID PERKINS** is a member of the Senior Faculty and the Carl H. Pforzheimer, Jr., Professor of Teaching and Learning at the Harvard Graduate School of Education. He is a founding member of the well-known research and

development group Harvard Project Zero, co-directed it for almost 30 years, and now serves as senior co-director.

He has conducted long-term programs of research and development in the areas of creativity and reasoning in the arts and sciences, learning for understanding, organizational development, and online learning. He is the author of *Making Learning Whole*, *The Eureka Effect*, *King Arthur's Round Table*, *Smart Schools: Outsmarting IQ*, *Knowledge as Design*, and several other books, as well as many articles. He has helped to develop instructional programs and approaches for teaching for thinking and understanding in a number of settings around the world.

He is a founder and codirector of WIDE World, an online teacher and school leader development initiative at the Graduate School of Education serving several thousand people per year in three languages. He is a former Guggenheim Fellow and fellow of the Stanford Center for Advanced Study in the Behavioral Sciences.

Read Dr. Perkins' interview in Page 80



## EDUCATOR INTERVIEWS

In the first of our series of educator interviews, Luke Haokip talks to three remarkable and experienced educators - Shalini Advani, Graham Ranger and Vivek Ramchandani



Shalini Advani



Graham Ranger



Vivek Ramchandani

**How would you describe your journey into the education world? What were the factors that prompted you to take this path? What about personal heroes?**

**Shalini:** Like a lot of little girls of my generation, I loved the enormous power which a teacher seemed to have. All those students standing up to wish you and offering to carry your books seemed terribly attractive at age 8!

Of course once I became a teacher I realised the secret is not to exercise power but seduction. You have to seduce young people to see the joy of new learning, the excitement of making new connections. They have to want to learn and then your job becomes simple. And it is easier than you think, if you feel passionate about it.

So my path into education started from being a teacher. And then I began to theorize and run trainings on the craft of teaching, for teachers and teacher educators.

And that led me to an interest in educational policy and how that big picture shapes the classroom. My book *Schooling the National Imagination* published by OUP traces the connections from the macro to the micro of classroom practice.

**Vivek:** I started out as an enthusiastic, naïve and untrained assistant teacher at my alma mater, in search of a quick route to independence that didn't involve being cooped up in an office and ended up an avowed crusader for quality education.

Not having enjoyed classes much during my own school days, I was driven by the challenge of ensuring that the classes I taught were always fun while actually facilitating meaningful learning. Similarly, as a school planner, my cardinal principles dictated that the school environment should appeal to children, tickle their curiosity and not constrain their exuberance.





**SHALINI ADVANI** is Director of Pathways School, Noida. She has been Principal of the British School, New Delhi and Director Education of Learn Today. Her wide experience in setting up and heading schools, includes creating effective learning environments, school management systems, staffing and curriculum development. She has conducted numerous teacher trainings on how children learn, collaborative teaching and whole school development.

Dr Advani was a member of the National Council for Educational Research and Training (NCERT) Steering Committee for the revised English Curriculum; the review committee for the National Council for Teacher Education (NCTE) proposed Diploma in Elementary Education course and on the editorial group for the NCERT English textbooks. Her publications include *Growing Up in the Nuclear Shadow*, (Orient Longman) a reader for young people on nuclearisation and peace, *Educating the National Imagination* (DUP) a study of nationalism in English language textbooks; and as special editor of an issue of *Contemporary Education Dialogue*, on the National Curriculum Framework 2005

I am a particular fan of Kurt Hahn, founder of Gordonstoun and the Atlantic College Wales, whose philosophy laid the foundation for the outward bound schools movement and the International Baccalaureate.

**Graham:** For most of my career, I have worked with less privileged schools and communities in my home country (England). Paradoxically, my father, though keen that I should not become a teacher, inspired me to become one. He was an orphan who had relatively few formal education opportunities but never had a bad word to say about his orphanage schooling. He went on to play football and to play the trombone at a high level, as well as being a natural enquirer with a love of language.

My personal heroes are people who stand up and be counted, those who are voices for independence or for minorities. Inspirational figures in the news of late are Aung San Suu Kyi and Arundhati Roy. The castigation of Arundhati Roy in some of the media is a disgrace. When we seek to charge writers with sedition for this kind of self-determination speech, we are not far away from burning literature and eroding democracy.

**How did your own schooling experience hone your personal educational philosophy?**

**Shalini:** Like many children, I was unhappy, disaffected and bored for much of my school life. In fact I was even expelled from one particularly unimaginative school which I will not mention by name.

But in my last 4 years I changed to a school which had a small, personalized, nurturant culture,

Once I became a teacher I realised the secret is not to exercise power but seduction. You have to seduce young people to see the joy of new learning, the excitement of making new connections."

Shalini Advani

"I started out as an enthusiastic, naïve and untrained assistant teacher at my alma mater, in search of a quick route to independence that didn't involve being cooped up in an office."

Vivek Ramchandani

"For most of my career, I have worked with less privileged schools and communities in England. Paradoxically, my father, though keen that I should not become a teacher, inspired me to become one."

Graham Ranger





**GRAHAM RANGER** is the Director of The British School, New Delhi where he teaches IB Diploma Programme, Theory of Knowledge as well as lower school geography.

As Director of Education for the English Schools Foundation (ESF) in Hong Kong, he developed a systematic leadership development programme for ESF's 1800 teachers including a programme for middle leaders in partnership with a local university. This programme, *Leading Upstream*, has since been accredited by universities in Britain, Australia and Hong Kong. He is also a Team Leader for The Council of International Schools (CIS) in the evaluation and accreditation of international schools.

He was one of Her Majesty's Inspector's of Schools, in England, with national responsibility for helping to improve some of the most dysfunctional schools in inner city areas. In England, he was a member of the Dearing Commission to reformulate the National Curriculum. Formerly a teacher-educator at The University of Oxford, he is a Fellow of The Royal Geographical Society and The Royal Society of Arts and has worked as a teacher-educator in rainforest environments of Cameroon, West Africa.

and suddenly no longer felt like an insignificant cog in an impersonal factory. It made me understand how educational institutions need to at least attempt to be all things to all people. All schools need to recognise those who are not going to achieve the highest grades but are talented at art or are good organisers or technologists. At Pathways, the school I now head, we put into place lots of flexibility in the systems to enable multiple approaches to learning of different types. I don't think you can only leave it to the good teachers. I think the system itself needs to celebrate children for what their strengths are.

**Vivek:** Despite being an annoyingly curious child, I never enjoyed studying, which I deeply regret. I was also frequently in hot water, if not for questioning authority, or allowing my attention to drift in class, then for some harmless, high-spirited prank. I felt grossly misunderstood and resented most teachers.

Once on the other side of the fence, I was determined to prove that it need not be so, armed with common sense and acute memories of what school was like for me. Convinced that children were given a raw deal in the traditional school model, I set about challenging convention in search of child-friendly solutions. That's all it took!

**Graham:** The biggest influence in my own schooling was in the primary school, in Year 6. The teacher was an enthusiast for outdoor education, for fieldwork, for archaeology, geography and history. Archaeology was his passion and it became our passion as we hunted the coast for

All schools need to recognise those who are not going to achieve the highest grades but are talented at art or are good organisers or technologists.







**VIVEK RAMCHANDANI** is the coordinator India for the Australian Sports Outreach Program (ASOP), a Sport for Development initiative launched by the Australian Government to contribute to human development through grass roots sports programs for disadvantaged community groups.

He has spent over 30 peripatetic years, encompassing a wide gamut of hands-on experience in private and public sector education planning and development.

10 years of spirited boarding school teaching, led to an invitation to plan, commission and head a 'different' new Delhi school. The new school's remarkable success, in turn, bred the establishment of an independent school planning consultancy service.

12 new, private schools later, the challenge of adapting lessons learned to develop scalable models for the delivery of quality education with the scarcest public sector resources led to an entry into the development arena – at first with the Aga Khan Education Service, Kenya, subsequently with UNICEF and finally, with the Australian Sports Commission.

Neolithic stone axes and flint chippings. He inspired the detective in me, the enquirer, to sift evidence and to view things critically.

**What makes a good teacher?**

**Vivek:** A good teacher is one who enjoys interaction with children, understands what gives them pleasure and can speak their language; is compassionate and has the capacity to listen to, trust and respect children as individuals; understands basic child development principles and is sensitive to their needs; knows his/her subject; can present content with flair, flexibility and a sense of drama; and, most importantly, has a strong sense of humour and fun.

**Graham:** A good teacher loves being with young people, cares about their safety, security and well-being and has the ability to create learning opportunities that support, challenge and engage. There are very few truly memorable lessons in schools.

**What is indispensable to creating a great physical environment in the classroom/school?**

**Vivek:** Approaching the design from a child's perspective; ensuring that the school is bright, cheerful and aesthetically and sensorially stimulating to children at different levels; providing plenty of 'hang-out' space for peer-group 'me' time; ensuring high standards of safety and security; and bringing the outdoors into the classroom both physically and metaphorically.

**Graham:** The human environment is much more of an influence than the physical. Having worked in

A good teacher loves being with young people, cares about their safety, security and well-being and has the ability to create learning opportunities that support, challenge and engage





inner cities of England, in Cameroonian rainforests without classrooms and in Hong Kong high-rise schools, I feel buildings are not all-important. However, given the opportunity, we should all seek to create spaces for learning in which students feel comfortable but in which they may be stimulated. As flexible as possible to cater for differing learning activities.

**Books that you would highly recommend for any teacher/educator's bookshelf.**

**Shalini:** Books which create an understanding of how education works as a system, as a way of empowering some and disempowering others, an understanding of how our education system is centrally shaped for middle class children who are good at book work but not for those with other forms of knowledge. Because when you recognise this, you can think about what you want to strengthen or change.

I think books like *Schooling in Capitalist America: How Working Class Kids Get Working Class Jobs* or McLaren's *Schooling as a Ritual Performance* are essential readings. Or alternative forms of education like Steiner's *The Foundations of Human Experience* or Tagore's essay "Ideals of Education" or Krishna Kumar's "What is Worth Teaching"

Then there are the indispensable books on how learning happens, like Vygotsky's classic *Mind in Society* or on differentiation like Carol Ann Tomlinson's *The Differentiated School*. The NCERT's "National Curriculum Framework" is a wonderful document too. And of course the vast new body of work on educational needs of the 21st century – on the importance of

collaborative learning, problem solving, using technology intelligently for learning.

**Vivek:** *The Third Teacher* (Compilation, Published by Abrams, 2010)

*Why Don't Students Like School: A Cognitive Scientist Answers Questions About How the Mind Works and What It Means for the Classroom* by Daniel T. Willingham (Published by Jossey-Bass, 2010)

*Teaching the iGeneration - Five Easy Ways to Introduce Essential Skills With Web 2.0 Tools* by Bill Ferriter/Adam Garry (Publisher Solution Tree, 2010)

*Drive - The Surprising Truth About What Motivates Us* by Daniel H. Pink (Published by Riverhead Hardcover, 2009)

*A Place Called School: John Goodlad* (Publisher McGraw-Hill, 2004)

*Teaching to Transgress - Education as the Practice of Freedom* by Bell Hooks (Published by Routledge, 1994)

**Graham:** *What's Worth Fighting for In Your School?* by Michael Fullan and Andy Hargreaves. *From Good to Great* by Jim Collins.

**Policy changes/rehauls that are essential to making the school of tomorrow.**

**Shalini:** I think that in India, the biggest changes we are looking for are in fact at the policy level. Our state schooling system is crippled with bureaucracy which pays almost no attention to learning processes.

There is no focus on or reward for innovative teaching practice, on creative pedagogy. The National Curriculum Framework 2005 laid



#### Recommended Reading:

Books which create an understanding of how education works as a system, as a way of empowering some and disempowering others...of how our education system is centrally shaped for middle class children who are good at book work but not for those with other forms of knowledge.



down a wonderful series of recommendations but they have not been properly implemented.

To give a tiny example, it is absurd that if a teacher wishes to take students out on a trip to a museum, they have to apply to a babu in the administration for sanction. Or School inspectors check if a teacher has ensured that the class has answered Question 1-5 at the end of a chapter, with no focus on what the children have actually learnt.

Of course we need a system of checks, but the policy framework has to reconstitute the controlling authority to focus on what children are actually learning. It needs to support and empower the people on the ground – Principals and teachers. I think we need a rehaul of how we deliver quality education at the last mile.

**Vivek:** Abolish the present 'licence raj' through privatisation and complete liberalisation of the education sector. Develop and adhere to non-negotiable quality norms in government schools, backed by improved teacher training and certification standards; and ensure teacher-accountability.

A free market will encourage badly needed private investment in education. A for-profit environment and the huge demand in India will encourage competition and force tuition fee rates to settle at respective buyer-driven market levels for low-cost, mid-level and high-end school segments.

**Graham:** Ban the use of bells.

**What values from the school of today shouldn't be lost in the school of tomorrow?**

**Vivek:** The human touch: courtesy, kindness, decency...

**Graham:** The value of active listening.

**One reason to rejoice during your typical workday.**

**Shalini:** When a child comes rushing up, dizzy with excitement because she has just designed a keychain or a pulley system for picking up marbles. Or has doubled his marks in a Maths test. Anything which shows the 'Aha' moment which makes new learning exciting and meaningful.

**Vivek:** Naughty, twinkling eyes above the smile of a child.

**Graham:** My best moment lies in the interactions with students and parents at the school gates at the beginning of each day.

**If you weren't a teacher/ educator then what would you have been?**

**Vivek:** A professional golfer.

**Graham:** A journalist.

**What do you carry in your bag?**

**Vivek:** My office – laptop, mouse, external hard drive, USB modem, headphones, iPod, swiss knife, a good book and mints.

**Graham:** Hand sanitiser. I shake so many hands. ■

One reason to rejoice during your typical workday is a child comes rushing up, dizzy with excitement because she has just designed a keychain or a pulley system for picking up marbles.









# The Heart of International Schools

Graham Ranger makes a case for International Schools

Photos: Luke Haakip

In trying to answer the question of what students expect from a school, the late Professor Jean Ruddock (University of Cambridge) found that "students want to be safe, they want to be valued and they want to know they are achieving. By 'safe', we do not only mean 'secure' but we also mean that they may work in an environment in which they are not penalised for taking risks or for making mistakes, that there is an absence of bullying, and that there is, in an international school, a respect for all cultures.

The heart of a school lies in its ethos, which is shaped by its

values. We aim to provide a warm and connected community where students are very well known to the school and where, with a generous teaching adult to student ratio, we know each student's level of attainment, rate of progress and well-being. As the school enrolls more and more students, we strive actively to retain the strengths of a small school. In academic terms, this intimate knowledge of the students is a great help but is insufficient on its own.

Last year we introduced the use of standardised assessments from Year 1, throughout the primary school, and in Year 9 in the secondary school. This enables us

to track the students' progress more effectively, to know them better and to intervene to support their learning more quickly. It enables us to identify learning needs, gifts, talents and language needs more precisely than ever. It has helped us to deploy staffing support where it is most needed: one of the aims of any school, and one of my aims, is to give students a fail-safe education, whoever the teacher may be. A guarantee of consistency and quality may only be given if we use accurate information about each student.

Schools, as formal education institutions, continue to be dominated by teaching rather than



learning. I remember when I worked in Hong Kong and the SARS epidemic caused many students to be absent from school for some weeks, absent from Hong Kong in many cases. Schools became anxious about the students' examinations prospects. In reality, examination results were above the normal levels, they exceeded expectations. There were several reasons: first, the curriculum is over-taught.

Students learn best when they are given more independence, more freedom to enquire, when they are guided but not led. Second, on-line learning began to play the role that it should, with less reliance on the teacher as a source of knowledge and more reliance on the teacher as a guide to

One of the aims of any school, and one of my aims, is to give students a fail-safe education, whoever the teacher may be.



interpreting information. Third, feedback became more personalised and more responsive, more diagnostic and more rapid.

Schools today are trying to do too much. Frank Furedi, the Professor of Sociology at The University of Kent, in England, "Why Education Isn't Working" reiterates the need for schools to reclaim their core business and not to be forced into the roles of social workers or surrogate parents, dieticians or counsellors.

However, society has changed and so have the pressures schools face. International schools enjoy many privileges when compared to others as well as different kinds of challenge, namely managing the international transitions for students, dealing with many students who may not speak the language of instruction and helping families, not just students in making cultural adjustments. For many foreign families arriving in India, the school provides the basis of the social network.

The number of international schools in India is growing exponentially: they need regulating. Poor quality international schools get the sector a bad name. Many of them are unattractive to internationally-mobile families, are international in name only and for the purposes of marketing. Some are dishonourable in their intentions. They require regulating, rebranding or closing down. Where lines may have been drawn firmly about who can be admitted and who cannot, the lines are blurring. Given the opportunity, many long-term local residents with an international mindset



International schools enjoy many privileges when compared to others as well as different kinds of challenge, namely managing the international transitions for students, dealing with many students who may not speak the language of instruction and helping families, not just students in making cultural adjustments.



International schools here need to show that they are also Indian in soul, and that, when one enters the school, one knows that the school is in India and that this permeates the ethos.



would like their children educated in such schools. These are no longer schools simply for expatriates or migrants.

Consequently, such international schools have a new moral imperative. No longer can they be islands apart from everything round them. In my view, an international school should have the following characteristics:

- A cultural mix of students and families;
- An internationally focused mission, aims and values;
- A curriculum that sets it apart from that of the host country;
- But an ethos that brings the best of the Indian soul to the students being educated here;
- A cultural mix of staff and staff with international experience and exposure; and
- A mindset that looks to develop global citizens, often helping them towards universities and colleges world-wide, and not just in the host country.

Forward-thinking governments may see international schools as adding to the educational tapestry on offer. Recidivist ones see them merely as unwelcome competition for local schools. Foreign companies, diplomatic missions, foreign universities will not be attracted to India unless there are schools for their employees' sons and daughters. It is not often easy for such children to be educated for a few years in a local school with an unfamiliar curriculum and approach to learning. However, schools speak to you. Walking up to the entrance, they emit messages, of welcome, or of

warmth, or coldness, or prison-like security defences. And they exude cultural messages.

International schools here need to show that they are also Indian in soul, and that, when one enters the school, one knows that the school is in India and that this permeates the ethos.

Bastions of privilege they may be, but a good international school should live out its social conscience and make a contribution to those less privileged around it. It should also have walls that are permeable, being distinct and set apart from what may be taking place in the locality but being able to draw on and absorb some of the positive facets of local cultures.

International schools should foster economic growth and encourage inward investment. They require regulation but also an enabling framework within which to flourish. Only then will India see the true benefits of international education at school level. ■



#### GRAHAM RANGER

Graham Ranger has been the Director of The British School, New Delhi since May 2007. There he teaches on the IB Diploma Programme (Theory of Knowledge) as well as lower school geography. He joined the school after five years as Director of Education for the English Schools Foundation (ESF) in Hong Kong, a group of 20 schools.





# KATHA EMPOWERING SLUM CHILDREN THROUGH STORYTELLING

Bindu Chander discovers how 8 Million Children are being empowered by Katha, a unique model that seamlessly connects grassroots work in story, education and urban resurgence. Their main objective: To enhance the joy of reading.





Photos: Bindu Chander

I was asked to guide a few meditation sessions in Delhi before Diwali that led to a chance meeting with an Educator from a non-profit organization called Katha. It inspired me to visit the project for a brief glance of their work. Geeta Dharamarajan is the founder of Katha, a leading NGO focusing on vulnerable Delhi communities giving underprivileged children opportunities to improve their skills and capacities. Dharamarajan is well into her

sixties, most people her age perhaps would be slowing down, edging towards a cosy leisurely life, but for Geeta, it's as if the journey has just begun.

Ever since she set up Katha in 1988 with an express view to help underprivileged children, Dharamarajan has set a hectic pace for herself. From managing day-to-day affairs at Katha's office to visiting one of the 74 resurgence initiatives or self-help community groups to counsel women, her day is full of activity. A woman of strong convictions, who believes that every child has the right to realise her potential regardless of social and economic status. This is achieved by inviting them to one of the 96 Katha schools for underprivileged communities. The Katha education model is underpinned by one central objective, to enhance the joys of reading for children and adults that in turn brings change that is sustainable and real in their lives.

I was keen to see how the Katha statistic of 8,000,000 children benefiting from the project actually worked. I asked to volunteer with the team who work in some of the poorest slums in Delhi and was taken on board almost immediately. Vandana – head of projects would be my guide over the course of the next few days.

#### DIWALI AT KATHA PUBLIC SCHOOL

First port of call was Katha public school in Govind Puri, a 40 minute auto rickshaw ride from Hauz Khas area where I was staying at a meditation centre. The contrast in economic wealth between these two parts of Delhi was startling. Hauz Khas, a wealthy, salubrious strong hold for

media and literary types (Arundhati Roy lives in nearby Green Park). Large houses furnished with a retinue of servants; the cook, cleaner, driver, security guard and gardener to name but a few. A neighbourhood, where sometime, even the servants outnumber the residents of the households. Hauz Khas is a place where you do lunch or go to Hauz Khas village to meet up with friends and sip frappe. Ok, I think you get the picture. On the flip side, Govind Puri is cramped in half the size of Hauz Khas yet has

The Katha education model is underpinned by one central objective, to enhance the joys of reading for children and adults that in turn brings change that is sustainable and real in their lives

twice the population. Our rickshaw stopped next to a vegetable vendor in Govind Puri and we got off noticing several large goats tucking into whatever was strewn round the vegetable stall. We walked down a dusty lane with littler and more stalls all enmeshed. Rows of tenement houses on both side, no gardens here. People hanging out in front of their homes some looking weary, others curiously looking at me as I was about them. To my left was Katha public school, a blindingly white building in contrast with its surroundings. I entered past the security guard and felt as if I had stepped into some middle class suburb. The school was inviting, bright,





spacious and more importantly full of children looking exceedingly happy. The school was buzzing with activity.

I was shown round the school and told that the children were decorating their school for Diwali. I asked if the school had any particular religious orientation and was told that all faiths were welcome and celebrated reflecting the community of children that the school served. Face painting, a gol gupha stand, games stalls, and henna art were some of the fun

things I discovered whilst going around. The colourful murals on the school walls reflected lives of the kids, showing them reading, writing, learning. I felt that the kids really loved this place, wanted to come here and contribute in return.

I joined some teachers who were marking some exercise books. They had just come back from a slum area where they teach kids to read and write under the nearest tree. These kids have to work to earn a living for themselves and

their families so cannot leave their place of work to go to school – it's the way it is here. Katha sends teachers to find these kids, build a relationship with them introducing them to reading, building their confidence, progressing to develop other skills including writing and mathematics. Its humbling and slow work but the teachers I met loved their children and wanted to see them develop and succeed through the education system in India.

#### INDIAN POLITICIANS KEEP FAILING THEIR PEOPLE

It got me thinking, why do these children have to work? Why are there so many children who miss out on their childhood; a time to learn, discover, and play? Why do their parents bare so many children in the first place that they blatantly cannot afford to nurture? Why? Frustrated, I turned to Vandana and she explained that in this society people do not accept birth control; it's considered against their religion. And I thought to myself, but having kids that beg for you on the streets is within their religion? A knee jerk reaction arose in me; I wanted to stop them having so many children. Stop this blind drive to procreate populating the world with suffering souls, just stop. This is not the solution I know. What it points towards is the corrupt nature of India's politicians who failed in providing education and healthcare for their nation.

#### TRANSFORMATION REQUIRES PATIENCE, ENDURANCE AND A LOT OF HEART

Katha has found that where the reading project has been embraced by communities, the birth rate has reduced and birth control has been





Katha has found that where the reading project has been embraced by communities, the birth rate has reduced and birth control has been accepted rather than seen as a 21st century evil. In other words Katha has shown a direct correlation between literacy and family planning.

accepted rather than seen as a 21st century evil. In other words Katha has shown a direct correlation between literacy and family planning. But Katha is a drip feed approach, minds have not changed overnight. Generations of people have thought in a certain way and breaking these patterns, igniting change and transformation required patience, endurance and a lot of heart. I was touched by the reality faced by all these beings and the Katha staff who were trying to truly make a difference one step at a time.

#### EVERYONE CAN DANCE, SING OR TELL A STORY

We left the school and headed to a household that was the meeting place for a reading group. I entered an alley only big enough

to walk single file between rows of tenement matchbox houses. The lack of open space made me feel claustrophobic. I felt enclosed, almost entrapped. I noticed a woman in the house next store. She was washing some clothes in a space not more than one metre square. We entered a house and there were twenty to thirty kids all huddled inside this one tiny room sitting on floor mats. There was nothing else in the room. All Katha reading groups were facilitated by a local reading group leader. They knew the kids, could build a relationship with them and encourage them to stick with their studies. The kids greeted us with beaming smiles. I had brought my DSLR camera and asked the kids if I could take some photos of them. Well, I couldn't believe what





posers they were! All of them wanted me to take photos of them and not one photo but many. They loved seeing themselves and asked for retakes if they were not happy with the results. After much photographic excitement we sat down and played games, one of which entailed going round the circle, nominating someone and deciding for him or her whether to tell a short story, sing or dance. I think I was the only one in the room with a belly full of butterflies, what would I sing? Dance a tango? My mind was racing... The kids on the other hand had no problems, they were raring to express themselves, each one of them wanted to stand in the middle of the circle and have their moment, be the centre of attention and perform. It was

wonderful to behold and should not have surprised me. After all I was in the land of bollywood where song and dance is a way of life.

**'I MISSED OUT BUT I WANT SOMETHING DIFFERENT FOR MY CHILD'**

The next day we went to visit a women's community group in an area called master colony that was part of Tughlakabad village, New Delhi. Santosh the community worker for the group greeted us and took us to the house that would host today's meeting. The lady of the house made us feel welcome and provided ample biscuits and sweet tea. About twenty women had turned up for today's meeting. I was impressed to observe this level of commitment; it was an active

The ladies all appeared to appreciate the importance of this and were keen to show that they were supportive and realised the value of sending their kids to school. One woman said 'I missed out but I want something different for my child'.



group. Vandana kicked off the meeting asking about how sending their kids to school was going especially girls. The ladies all appeared to appreciate the importance of this and were keen to show that they were supportive and realised the value of sending their kids to school. One woman said 'I missed out but I want something different for my child'.

The desire for change amongst these women was palpable. One woman had made the bold move of leaving her husband. He was sleeping around and was not working so could not support the family. She had decided to cut all ties with him and go forward alone. To witness that this group of women despite their social economic context were no longer ready to accept a degraded existence and abusive behaviour from their spouses was refreshing and touching.

The women raised concerns about garbage management; or more precisely the lack of it. How the government trash collectors infrequently visit their area so the locals fly tip, creating open dump sites and how the mains water supply was contaminated and locals have to purchase tablets to make the water safe to drink. Katha takes up these concerns on behalf of the communities they work with and raises them with the necessary government departments.

Some of the women had brought sweets to share round, part of the tradition of Diwali, we drank tea together and enjoyed the treats. The final item on the agenda was entertainment, a drum appeared and some bells and there I was surrounded by women singing traditional bhajans and dancing in their beautiful flowing sari's.



I could not think of a better way to bring light in this world on the occasion of Diwali. ■



**BINDU CHANDER** is a media professional based in London with over nine years of expertise devising, setting up & delivering a wide range of social action campaigns for the BBC across the UK. When not travelling, you can catch her presenting world music radio shows on Resonance.

Bindu is an adventurous free spirit whose passions include; scuba-diving, Argentine Tango dancing, planting trees as well as cooking and having lots of dinner parties. Her blog: [tangelover.wordpress.com](http://tangelover.wordpress.com)



# HOW GREEN WAS THIS SCHOOL

A small, new school for the masses has managed to become one of the ten greenest schools in the country and ensured that a right and a stake in the earth and the environment is not just the domain of the well heeled



Text and Photos: Sridala Swami

Driving through the gates of the Ashok Leyland School in Hosur, I am struck by how immensely different it is from its surroundings. Standing some way in from the main road, surrounded by two factories, one of which cuts stone and spews a lot of dust in the air, the school is nothing if not an oasis in the middle of this town that was once sleepy but now finds itself practically a suburb of Bangalore.

I am here to find out how it is that a small, new school has managed to be among the ten greenest schools in the country. Every year since 2006, the Centre for Science and Environment (CSE) in Delhi has encouraged schools to participate in their Green School Programme, and conduct a self-audit to assess their environment-friendliness.

For the year 2009, the CSE observed that of the 5,000 schools that participated, the most innovative and change-making schools



are those in the semi-urban and mid-rung category. Urban schools, especially those in big cities, tend to make token gestures towards making their schools green by going on eco-tours or starting eco-clubs.

I can well believe this. Space is at a premium in city schools and the management is more likely to construct new buildings rather than concern themselves with ways to use natural light and air in order to reduce electricity use, or make any drastic changes in their methods of functioning.

With the Ashok Leyland school this is not the case. Long before they had heard of the CSE's Green School Programme, with the support of the management, the Principal, Uma Srinivasan, was clear that the buildings would be the greenest they could be. The architect, P.T. Krishnan, incorporated ideas used in the construction of the CII- Sohrabjee Godrej Green Business Centre in Hyderabad.

Natural light in the classroom to save on electricity



The school courtyard

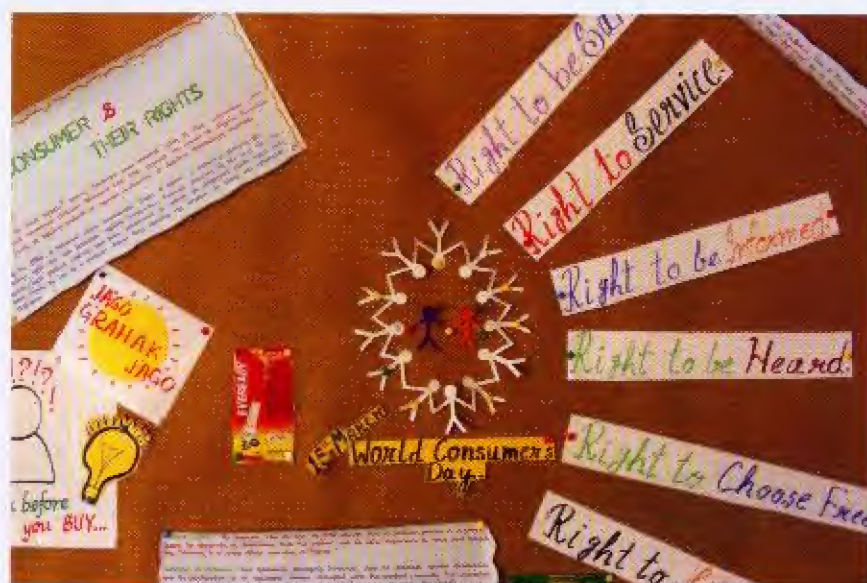
Much of these early ideas are visible in the school now; as I walk to the office, I pass through corridors that are shaded by jaali or trellis-work. The corridors themselves distance the rooms from the outside, providing one more layer of shelter from the elements. Every section of the building has one green, open air space and every classroom looks out onto greenery. I notice the building is made of natural stone, with a minimal use of cement and steel. The rooms have large windows and gaps at the top for free movement

Every section of the building has one green, open air space and every classroom looks out onto greenery...the building is made of natural stone, with a minimal use of cement and steel.

of air. I'm told the tiles on the roof are double-layered. This is high summer and I don't feel the heat inside.

In the science room are the two teachers I am here to meet. Pauline Sheela and Savita Sreeram are responsible for not just the self-audit that gave the school its award but also for supervising and constantly improving upon the environmental programmes the school undertakes. They take me through the categories under which self-audit has to take place: Water, Air, Energy, Land, and Waste Management. Over the next hour, they tell me about the school's





The school bulletin board

**CRITERIA FOR ASSESSMENT:**

**WATER:** Quantity of water used, water recycled, Rain water harvesting facilities, Awareness created on water usage, available sanitation facilities and availability of potable water.

**AIR:** canopy cover, Usage of mass transport, mileage of vehicles, Passenger capacity, Class room area and student ratio and Local pollution level.

**LAND:** total area, total constructed area and green area. Green area includes tree canopy, lawns etc, Biodiversity and Usage of inorganic pesticides

**ENERGY:** sources of energy, per capita Consumption levels of electricity, petrol, diesel etc. Alternative sources used, Count on energy saving lamps.

**WASTE MANAGEMENT:** Amount of waste generated, categories of waste, segregating waste, disposal system and recycling quantity.

schemes that include and exceed the brief of the CSE's Green School Programme; how waste is segregated, how they maintain bio-diversity, use trees as barriers against the industries just outside their school, their rainwater harvesting system and sewage treatment plant.

They tell me that Thursdays are meant for children to involve themselves with the surroundings by gardening, checking waste segregation and composting. Children are encouraged to bring kitchen waste from home to compost and strongly discouraged from using plastic in any form. Pauline shows me a pencil case made out of cloth and says their arts and crafts also include recycled materials. The paper work the office generates is kept to a minimum and they mostly use recycled paper.

As I listen to them talk, I see the energy and enthusiasm with which the discussion sometimes arcs away but never strays far from the subject. We discuss with enthusiasm the old practise of

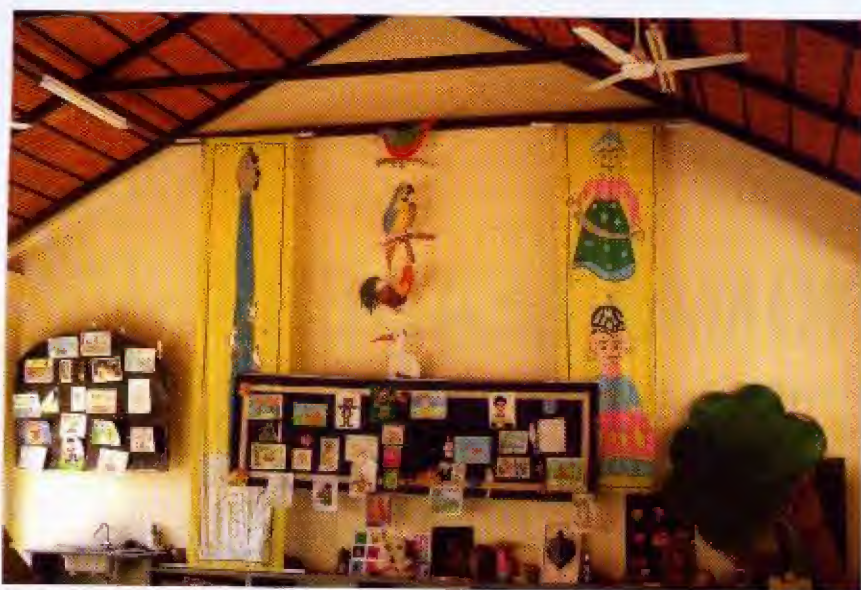
saving vegetable peels and kitchen water in pots, to give to a man who would come once a week and take it away to feed his buffaloes. In exchange, he would provide a household with dung, which was traditionally used on floors as a natural insect repellent. But that was about another era, and they had to find ways toward a sustainable living in different times.

I realise the advantages this school has over many others I see in the city: it has space, it has the backing of its sponsor, the Ashok Leyland Group and most importantly, it has awareness and commitment. All these things are crucial: without the space or the monetary investment needed, much would be impossible; without the commitment, all the space and money in the world would be useless.

Children are encouraged to bring kitchen waste from home to compost and strongly discouraged from using plastic in any form.

In urban schools, things like space, quality of air, water and electricity are often areas where little can be done. For instance, it may be possible to switch to energy-saving lighting, but it may not be possible to restructure the building itself to let in more natural light. Or, a school might water-harvest and rigorously check taps for leakages, but may have no control over water supply or the lack of it. Their problems with children are more likely to be, "How can they be discouraged from bringing highly-packaged junk food and nintendos to





A classroom at the Leyland School

school?" rather than, "How do we get them to make cloth pencil cases?"

Pauline and Savita take me on a tour of the school. As we pass giggling children in crocodile lines, Savita points out the pipes leading down from the roof, to collect rain water. I ask them in what categories they didn't do as well as they might have in the self-audit. Pauline says that their rainwater harvesting was not to capacity, according to the criteria of the CSE, and their buses didn't use CNG.

Earlier, I had passed a fleet of buses parked near the gate. It is true that I didn't see a green CNG sign on the buses; on the other hand, neither did I see a fleet of cars parked either inside or outside the gate. It appeared that nearly everyone used the bus to and from school. "CNG stations are not available here," says Pauline. I point out that that is not their fault. But audit criteria are audit criteria and in this case, the school did not meet their guidelines.

We exit the building and there is still a lot to see. Outside, trees are in

**The vegetables that they grow are then sold in the market. This is clearly a favourite place for the children – a place where they enjoy planting, caring for and harvesting the vegetables, while learning about organic farming methods practically instead of theoretically.**

various stages of growth. Some are very young and are being held by sticks and irrigated by pots; others, especially along the boundary walls, are well-grown. There are neem and bauhinia, banana and coconut as well as rose bushes and a vegetable patch. Of this the teachers are very proud, because their garden generates revenue. They use neem cakes as natural pesticide, and use compost as fertiliser. The vegetables that they

grow are then sold in the market. This is clearly a favourite place for the children – a place where they enjoy planting, caring for and harvesting the vegetables, while learning about organic farming methods practically instead of theoretically.

As we make our way past the rainwater harvesting pit, I notice a large area separated from the main grounds of the school by a small gate. It is the sewerage treatment plant – a really large installation, with a huge central tank and many covered pits. There are clearly many stages through which the sewage passes before emerging as reusable water (with which the entire garden is maintained). Pauline and Savita give me an overview and then it's time for me to leave.

As I wave goodbye, I think about the children of the school. These are the children of the workers of Ashok Leyland, for whom the school was set up. These children have access to the kind of facilities usually reserved for children of the well-heeled or privileged: well-lit classrooms, clean water, space in which to play and most importantly – a sense that they have both a right and a stake in the earth and the environment. I can see the responsibility and pride in these neatly turned out children and wish more schools did this audit to see where they stood and what they could do to make their school as lovely as this one. ■



**SRIDALA SWAMI** (trained as a film editor from the FTII, Pune. Now she writes poetry and fiction and brings up her son. Her first collection of poetry, *A Reluctant Survivor*, was published by The Sahitya

Academy in 2007. She has brought out three books for young children with Pratham.



**SCHOOL OF TOMORROW** | 7<sup>th</sup> December  
New Delhi  
The XSEED Conference on the Future of School Education  
**SPECIAL FEATURE**

# INSTRUCTIONAL LEADERSHIP

## HOW A SCHOOL LEADER CAN IMPROVE TEACHING AND LEARNING?

A panel of eminent educators discuss ways for innovative practices to transform schools. This panel discussion was held at the Delhi chapter of the School of Tomorrow Conference and moderated by **Rakhi Soni**.



**DAVID ZAROWIN** is the Director of the Harvard WIDE World Program. Before joining the Harvard Graduate School of Education, David spent 15 years in various editorial, marketing, business development, and general managerial positions at Prentice Hall its parent company, Pearson Education. Prior that he was a labor and industrial historian for the Commonwealth of Massachusetts.



**DR. SHALINI ADVANI** is the Director of Pathways School, NOIDA. She has been Principal of the British School, New Delhi and Director Education of Learn Today. Her wide experience in setting up and heading schools, includes creating effective learning environments, school management systems, staffing and curriculum development with the IB, GCSE as well as CBSE schools.



**GRAHAM RANGER** has been the Director of The British School, New Delhi since May 2007. There he teaches on the IB Diploma Programme (Theory of Knowledge) as well as lower school geography. He joined the school after five years as Director of Education for the English Schools Foundation (ESF) in Hong Kong, a group of 20 schools.



I didn't see the need for a bachelors in education (B.Ed) as a pre-requisite for teaching. What we looked for was somebody who had sound knowledge of the subject, was passionate about learning and had very good communication skills.

**Rakhi Soni:** What are the innovative practices a school leader can adopt to improve teaching and learning in schools? There is no simple way to define school leadership. There is a lot of ambiguity and there are no guidelines. As a researcher has said, "There are road signs but a map is yet to be found."

**Rakhi to Abha Adams:** You come from a very diverse background, having worked with the media and theatre, before school happened to you. Then you spent many years setting up an exemplary school in the Shriram School in Gurgaon. How did you manage to inspire educators to become exceptional teachers?

**Abha:** The fact that I hadn't taken the traditional route meant that I came into school education without being constrained. I used to ask for things to be done in a particular way and was told, "It can't be done that way. We've never done it that way." And I'd say, "Well, we can try," and by trying, it worked! My coming in with a fresh perspective worked.

The most important aspect of any institution is to create a community, and in order to create that community or collegiate, you've got to bring people together and create an environment in which everybody feels connected and supported. In which they all know what they are working

**ABHA ADAMS,** Abha spent over 30 years in education in India and the UK. She has been the Director of the three Shri Ram Schools. Mrs Adams has been a member of the executive of the Council for Indian Schools, a member of the Standing Committee on Examinations, and a member of the Awards Committee. Mrs. Adams has also worked with the BBC in the UK.



**GUNMEET BINDRA** is the Principal of Vidya Devi Jindal School, Hisar. She is a Master Trainer from Cambridge International Examinations (CIE) a CBSE resource person for CCE and a Cluster leader of the UKIERI project of the British Council. She is also the British Council School Ambassador for their pilot project, "Connecting Classrooms online."



L to R: Gunmeet Bindra, David Zarowin, Rakhi Soni, Shalini Advani, Graham Ranger and Abha Adams

for, and are agreed on their principles, values and strategies. You ensure this by picking the right people, ensuring the right kind of professional development, and being open, flexible, extremely fair and connected as a leader. Then you ensure that people will begin to work collectively. Consensus is critical and a very useful way of ensuring that all work together well.

Take recruitment, for instance. I didn't see the need for a bachelors in education (B.Ed) as a pre-requisite for teaching. What we looked for was somebody who had sound knowledge of the subject, was

passionate about learning and had very good communication skills. It was important that the person was courageous, one who would take your feedback and criticisms and go back and make it better. You add a good sense of humour to that and a sense of being able to survive in middle and senior school, and you've got the right person!

And the B.Ed. would come. You would ensure that, through very carefully planned internal capacity building and professional development, the staff were constantly being groomed. As a result, we collected around us a





group of people who were very similar, who knew the goal and were committed to it.

**Rakhi:** So, a B.Ed and M.Ed is not necessary?

**Abha:** I do not think they are necessary prerequisites, unless you have had the opportunity to train at the best training spaces. Doing a B.Ed. by correspondence is nonsensical. The desire to learn, to be passionate about what you do, to enjoy exploration together with children, are all more important. All the other skills—managing the classrooms, good assessments, etc. — can be taught. But you cannot teach a person to be excited and to infect others with their excitement and their passion for what they are doing.

**Rakhi to Graham Ranger:** You put together a leadership and professional development programme for teachers at the English School you worked with in Hong Kong, where teacher observation and giving feedback was the core philosophy you used. How are you using this currently as the school leader of the British School? And what is the role of a school leader inside the classroom?

**Graham:** Any effective school leader has got to be characterized by certain values, personality traits and habits. They need to have a vision for making a difference. They should be judged by the outcomes of the school, and not in terms of examination or university success.

Every school leader needs to believe in teachers. Across the world, there's not enough belief in teachers' capability from school leadership. The responsibility we have as school leaders to invest financially and emotionally in teacher development, makes the difference.

Though external factors like socio-economic context are vital too, there are two important things that make

Over the last couple of years, informal peer observations that teachers have arranged with teachers, without anyone in the leadership team knowing, have become more prominent. And these are probably making more positive difference than what we have been doing formally.

the difference to the outcomes for the students inside the school. These are (1) the quality and nature of the teaching, as an influence on learning and (2) school leadership at all levels. Therefore, heads of schools should be people who are out and about amongst the students and staff. This might mean management by walking around and purposefully engaging with the community in a very practical way.

The best half-hour of my day is the time I spend at the gates, welcoming the students. At the primary school gates, I meet the parents as well, while at the secondary school gates, I meet the drivers and the students. By doing this, one can pre-empt a lot of formal meetings that parents may wish to have with the school leader. It is about getting to know the students and the parents and hearing the issues they may wish to raise with you as a school leader, in a context where they feel at ease.

We can easily understate the potential trauma of coming into the principal's office for a member of the community who we are trying to lower barriers with, in order to engage with them, in as natural a manner as possible, about students and their learning. It's about values and habits. It's not about how much time you spend at work, not about the freedom and autonomy one

has from any system of schools, but about the nature of the work you choose to focus on and the belief that you are focusing on the things that can make the most difference to students.

With regard to lesson observation, those values must come first. It is very easy for a lesson observation programme or a performance appraisal system to be mechanistic and bureaucratic. We have a formal observation system in place, aimed at staff development and evaluation. But over the last couple of years, informal peer observations that teachers have arranged with teachers, without anyone in the leadership team knowing, have become more prominent. And these are probably making more positive difference than what we have been doing formally. However, it is very easy to see what's not going so well through formal lesson observations — the soft skills are much more important in the sense of the dynamic relationship one sets up with the colleague.

Good principals love teaching. Good principals tend to love teaching by looking at it because, by loving teaching, they are loving learning. Many a good principal love teaching as a teacher actually. But many of them, including me, aren't the best equipped teachers in the school.

**Rakhi to Shalini Advani:** You have experience with all kinds of curriculum—IGCSE, CBSE and the IB board. How important is it for the school leader to have an understanding of the curriculum and how it pans out in the classroom? What are the differentiated needs of the students within the classroom? What role does the principal have to play?

**Shalini:** An important development in recent years is the recognition that there are different kinds of students within the same classroom; that a one-size-fits-all curriculum cannot be imposed on all of them. Children in an average classroom will differ in their readiness, their pre-knowledge



of a subject area, and their learning styles (some like to sit still and work, others need to move about, still others need to discuss). I would say this, with some reservation, there are differences by gender as well.

It is essential for a school to consider how all of this is balanced. If you are fortunate to have only 20 children in your classroom, then that's ideal. But does that mean that, if you have 40, nothing can be done about it? Differentiated learning is not individual learning; it's not one-to-one teaching. It is working out enough activities, strategies and teaching approaches to plan for these differences. And integral to developing individualized needs, and this is where the school leader comes in, are the planning processes.

In a large number of schools, planning consists of, "On Wednesday, we will do chapter three..." That is not planning at all. Planning means looking at the worksheets, activities and discussions one is going to implement simultaneously, within the same classroom, to enable different children to learn in different ways. Technology is an easy assistant, a great enabler, if you know how to use it intelligently, but it is far from being the only way of doing it.

Sometimes, this means having detailed lesson planning, which the school leader looks at. Sometimes it is to do with the arrangement of the furniture in your classroom (straight rows of desks and chairs all facing the teacher means that there is one fountain of knowledge, the teacher, and the students passively imbibe it. Instead, you have to consider that children learn from each other, collaboratively, which enables them to learn in different ways and at different paces).

Schools tend to be rigid and, as teachers, we don't like too much change. There are good reasons for this—teachers know they have to deliver a nugget of knowledge in 40

**Children in an average classroom will differ in their readiness, their pre-knowledge of a subject area, and their learning styles—some like to sit still and work, others need to move about, still others need to discuss.**

minutes or that in February they will be doing revision exercises because schools are structured in particular ways. But rigid systems and structures have a huge cost for children. One of the most obvious ones is that children learn and develop by age, regardless of where they are in terms of their own learning. So if you are 12-year-old, you are to do algebraic formulas in a particular way. Instead, consider a flexible time-tabling structure. This is when you block-schedule. For instance, the entire middle school does math at the same time. Then you enable a grade 6 child and a grade 8 child to be in the same math group because they are working at approximately the same level. I don't mean that your entire time-table needs to be blocked like this but given that flexibility and space, you get this sort of differentiated learning.

Planning processes like this one is what a school leader can do. To get teachers, administrators, schools and parents to understand that children learn in different ways is one of the most important interventions that a school leader can make.

**Rakhi to David Zarowin:** You have provided a unified platform where teachers are learning new innovative ways of teaching all around the world. What role does an instructional leader or the principal of a school have in developing the skills of the teacher?

**David:** Ideally, school leaders are

instructional leaders. They are not just people who make sure that the buses run on time and that the kids get from one class to the next.

What do we mean by an instructional leader at Wide World at Harvard? We mean somebody who can facilitate the organization being a place where everybody learns. Assuming that understanding is really what we want our students to be able to do (and by "understanding" we mean flexible thinking -- the ability to take what you've learned in one situation and be able to apply it in another curriculum context or apply it out in the world), the role of the school leader is to enable the organization, the whole school culture, to be a place where that kind of learning takes place.

The school leader can do a lot of different things. For example, the school leader can decide what kind of professional development is important for the school to move in the direction of understanding. The school leader can participate in that professional development him or herself, and not just set it up for teachers to do. The school leader can model learning and what it looks like when teachers are working together to learn.

There is a popular phrase: "The guide on the side rather than the sage on the stage." In a classroom where the teacher is the guide-on-the-side, the students are an active part of the learning process. In a school that is a learning organization, the principal or the school leader is serving that same function. The school leader steps out of the role as the sage and becomes a facilitator of learning, modeling it in how he or she conducts a faculty meeting, a classroom observation or an evaluation of a teacher.

In other words, the school leader has

**SCHOOL OF TOMORROW** 7th December  
New Delhi  
The XSEED Conference on the Future of School Education  
**SPECIAL FEATURE**





to internalise the values and demonstrate through his or her own behaviour in the school what it looks like to teach in these ways. We developed an online course 5 years ago called "Leading for Understanding". This course is about what a school leader can do in his or her day job to support teaching for understanding, in how they conduct faculty meetings and in how they do classroom observations and the like.

**Rakhi to Gunmeet Bindra:** You've been a user of Xseed and over the last two years transformed a 'traditional school' into one that uses a lot of innovative practices, and you've had tremendous success with the teachers. Why don't you tell us how your role has changed since and how you feel about it now?

**Gunmeet:** I've always been a hands-on principal, ever since I took over the responsibility of heading a school 15-18 years ago. The school I referred to here is one I took over about 2 years back, which was already 23 years old. So I inherited a lot that I probably didn't want to. The biggest challenge I faced, because it is a residential school, was availability of time. The question was: How can we plan our lessons? We needed activities, not just chapters and units.

That's where XSEED came so handy. It provided me with all the lesson plans! I would sit with my teachers, discuss with them and then go into the classroom. There was a lesson which required a lot of resources to be handled in the class, so I told the teacher to let me be her assistant in the class. She was hesitant and took 10 minutes to tell me what to do. By the end of the week, however, I was going around distributing all the resources and she was conducting the class! And the following Monday, after a weeklong session in the classroom with my teacher, I received

Responsibility, integrity and curiosity are all critical for us to be able to help children acquire the skills of analysis, collaboration, reflection, decision-making, navigating information and creativity.

notes from the class which said, "Ma'am thank you for helping us in our math lessons."

That's how I see myself and that's how I've actually lived the classroom after becoming a leader in the school. Now, when I get into my office, after spending 10 minutes in there, I am out on the first floor, looking up the register see the substitution classes, choosing the two periods in the day I religiously have to be in, and I just go in and become a participant in the class with the teacher.

This has had such a tremendous impact on the teaching-learning in the classrooms. Because the principal gets into the classroom, the school is now developing a culture of performance, development and primary focus on teaching-learning. So from having a managerial leader the school has become one where every leader is a teacher and every teacher is a leader of sorts (she is leading a group of students). The school leader, the teachers as co-leaders and the students have all gained satisfaction beyond words.

**David:** I have a counter example to share. My wife is a second grade teacher in a suburban school system outside of Boston. Her school leader, a Red Sox fan, came into her classroom last year, and no matter what she was teaching, he would sit down at the table with some of her students and talk to them about the Red Sox. Not about what she was teaching, or listening to what she was

teaching and what was really going on in the classroom and supporting it. Instead, he came in with his own agenda. I would say this is an example that counters to your excellent modeling of what it looks like to be an effective leader, where you're supporting your teacher and you're endorsing what they're in the classroom to do.

**Rakhi:** How does a leader balance time between the managerial duties and the academic responsibilities that he or she has?

**Gunmeet:** It's a question of time management, will and desire. If you are passionate about what you do, the curriculum, the individual education plan, management by walking around, and getting the teachers on the same platform, just falls in place.

**Abha:** Ensure that there is an flat organizational structure which focuses on building capacity; that there are teams which work together; that there are curriculum leaders or academic co-coordinators. All finely dove-tailed together in a web. The responsibility to achieve balance is not dependent on the principal alone. Responsibility, integrity and curiosity are all critical for us to be able to help children acquire the skills of analysis, collaboration, reflection, decision-making, navigating information and creativity. All these skills come out of developing your curriculum. So the focus has to move into teaching-learning, that has to come through an organizational structure which you build, and then move forward with consensus and consultation.

**David:** Set learning as a priority. It could be your priority to ensure that the buses run on time. However, if the leader sets it as a priority to foster learning, that means that other things are going to go down. There are only so many hours in a day, and so in terms of the balancing act for a school leader, he or she has to find someone to delegate those things that are about making the buses run on time. Put



your energy into instruction, and modeling effective teaching-learning, because that is ultimately why you are in that school.

**Shalini:** The traditional name for the head of the school was not director or principal, but "head teacher", implying that the heart of a school is the teaching and learning. There are many kinds of pressures one has as a head teacher—boards to answer to, the department of education, the finance sub-committee, etc. There are all those things which cannot be anybody else's job. But unless you give a priority to the teaching and learning aspect, you've lost the heart of what your job is about. And it is evident in what you model, and in the systems and structures you put into place.

We have a time, one day of the week when students go home early, which we use to plan and collaborate with each other. The parents understand that for teachers to be effective, they need that time. You need to prioritise department meetings and group meetings, sit in on them sometimes and reflect on what comes out of them, because that is the web that gives strength to your learning program.

**David:** Professional development in a school is about improving practice. Ultimately schools invest in professional development to increase everybody's capacity and skills. That means providing time for applying what you are learning to what's really going on in your own classroom.

Professional development in most schools is sit-time. Teachers show up for a workshop, sit on their hands, and after an hour and half goes by they return to their work. An effective leader helps foster a kind of professional development culture where the teachers take what they are learning, and where the leader him or herself takes what they are learning, to apply it to their own practice.

**Professional development in a school is about improving practice. Ultimately schools invest in professional development to increase everybody's capacity and skills.**

**Graham:** I think it was Professor Michael Fullan who said you can't invest in someone's professional development by changing them and putting them back in an unchanged school. There is no value in that kind of investment. The school leader needs to set the example but we have to build that learning community within the school. One of the challenges is where school systems or neighboring schools can be unnecessarily competitive. You must be willing to invest in your own teachers in the medium to long term, and not think that I am investing them in order to prepare them for the next promotions somewhere else. Improvement takes some time; there are no quick-fixes. The fact is that even if you have some very capable people in the organization, unless you have the systems and support, unless you believe in them and invest in them, it won't change and it will still take time to change.

**Abha:** If schools are aiming to be learning organizations, they can only learn by sharing with other learning organizations. In our society, this is really very difficult; nobody wants to share what they may have developed with you. Overseas, the IGCSE and the IB curricula are built on schools sharing resources and ideas, and with the teachers training each other.

When I suggested starting this professional development center in our school (in Noida) to other principals, they said, "We are not going to send our teachers as resource people. What they are doing remains in the school."

**SCHOOL OF TOMORROW** 7th December 2011  
The ASSEU Conference on the Future of School Education  
**SPECIAL FEATURE**

All the ideas we want are on the net anyway, so why can't we share? If we want schools of tomorrow, then the school of tomorrow will have to learn not to have those walls and to begin sharing ideas and learning.

**Rakhi:** If I were to become a school principal tomorrow, what would be your advice (in one line) for me? What would I need to do in the first week in school?

**Gunmeet:** Connect with the children. If you follow the dictum, "Every child matters", all other systems will be taken care of.

**David:** Be a learner yourself and ask good questions

**Shalini:** Create a learning community. The word "stakeholders" is useful because it incorporates parents, teachers and the support staff. However, it smacks so much of the corporate world that you feel you are part of the share market. So, having put that word aside, creating a learning community of parents, support staff, teachers, students and the management is crucial.

**Graham:** Listen to what students think about the school and why they think it, and keep listening.

**Abha:** All principals believe that god comes second and they are first, and that is not right. The power of humility, forbearance, patience and consultation. I really believe that the consultation process in schools is important. ■



**RAKHI SONI** heads the instructional design work for XSEED at iDiscovered Education. She has a Masters in Counselor Education from New York University. Rakhi also holds degrees in psychology and social

work. She believes that the teacher, who is the soul of the classroom, needs to maximize the capacity of each learner.



**SCHOOL OF  
TOMORROW** | 7<sup>th</sup> December  
New Delhi  
The XSEED Conference on the Future of School Education  
**SPECIAL FEATURE**

# HOW WILL EDUCATION REFORM REACH THE LAST MILE?

## SOCIETY'S EXPECTATIONS FROM SCHOOLS

A distinguished panel of leaders from the media, the government and the corporate world discuss the change and legislation in education reform in today's rapidly changing India and what educators must do next.

This was the second panel discussion held at the Delhi chapter of the School of Tomorrow Conference and was moderated by **Anuradha Das Mathur**.



**DR RUKMINI BANERJI** is the Director of Pratham, New Delhi. She studied at St. Stephen's College and Delhi School of Economics and went on to become a Rhodes Scholar. She then studied at the University of Chicago and worked on children's labour force participation and school attendance in rural India and also taught in the Chicago Public School System



**VINEET JOSHI**, IAS, Chairman CBSE. A 1992-batch IAS officer, Vineet Joshi hails from Uttar Pradesh and comes from the Manipur-Tripura cadre. He is a B.Tech in Mechanical Engineering from IIT Kanpur. He has earlier served in the ministries of Culture, Youth Affairs and Sports and Women and Child Development. During his tenure as Chairman, he has been instrumental in initiating dramatic reforms in the assessment system.



A teacher could be well-prepared and well-trained by our assessment, but may not be motivated enough to deliver inside the classroom. We need to focus on issues of demand as well, where the primary actors are the parent and the student.

**VIVEK RAMCHANDANI**, Coordinator Australian Sports Outreach Program. He has specialized as an educational facility and systems planner for schools. From, working as Head Master of the junior school at The Lawrence School, Sanawar, to Executive Officer of an educational consultancy group, he currently works as the Educational officer for UNICEF at their India country office. He is also the former founder principal of The Shri Ram School, Delhi.



**ADITYA NATRAJ** is the Founder Director of the Kaivalya Education Foundation, dedicated to training government school principals in India to turnaround their failing schools. Earlier, Aditya worked as a Programme Director at Pratham, India's largest educational non-profit focused on literacy improvement across 3,000 villages in Gujarat. He has also worked as a World Bank consultant in Afghanistan. Aditya is a National Talent Search Scholar and was recently awarded the Echoing Green fellowship for 20 of the world's most promising social entrepreneurs.



**Anuradha Das Mathur:** There has been so much change and legislation in the last couple of years in the area of education reform. Legislation is the most emphatic expression that a government can demonstrate towards the change that it wants to implement. The right to education, the implementation of continuous and comprehensive assessment approach and, finally, the acknowledgement that education reforms and the delivery of quality education cannot be done by the government alone are enormous strides the country has taken. There is also an active involvement of private enterprises, NGOs and other interested partners to deliver the desired outcome.

The stage is set. So, what do educators sitting do next? What are the thoughts, solutions, ideas that will help us realise the goals of the proposed reforms?

**Anuradha to Vineet Joshi:** You've proposed a change in the examination policy by introducing the continuous and comprehensive evaluation (CCE) process. How do you believe that schools can actually implement these changes and derive the maximum benefit from what you propose? Are there some obvious factors that could derail the outcomes that you would like schools to watch out for?



The panel discussion in session

**Vineet Joshi:** Ensuring that education reform will reach the last mile is basically asking where does the buck stop. Anybody can give a policy direction but there has to be someone who will implement it. I have this insight as the result of our meetings with the stakeholders of education in the country. When you meet the parents, they say they find it very difficult to trust the teachers. They complain that they are ill-equipped, subjective and biased. If you talk to the teachers, they say that the parents are overambitious, pressurising their

wards irrationally, focussed on marks and marks and interfering. The relationship between the parent community and the teachers is one of gross mistrust. The principal of the school is burdened by the performance of the school, as was revealed in a survey we conducted in Gurgaon. When we dig deeper into the issues, everyone backtracks, saying there is no problem!

We must realize that it is not somebody else who is going to ensure the success of the reforms. We all



**SCHOOL OF TOMORROW** 7th December 2011  
The KSEEO Conference on the Future of School Education  
**SPECIAL FEATURE**

need to assume this responsibility. Whether I work at the Board, am a teacher, a parent or the principal, I have to think that it is I who has to ensure that the reforms are successful.

In most of forums that I have been part of, the focus has primarily been on the supply side of education: teacher training, the production of good material, etc. A strong supply does not ensure quality. A teacher could be well-prepared and well-trained by our assessment, but may not be motivated enough to deliver inside the classroom. We need to focus on issues of demand as well, where the primary actors are the parent and the student. It is upto them to realistically assess what goes on in the classroom.. Noexternal agency can oversee this. Ultimately, if we have to ensure that these reforms are successful, the parents also have to come on board. They have to understand and appreciate the importance of the reforms, understand what to expect inside the classroom, and exert pressure so that these things happen. Civil society at large also has a responsibility --, unless we stop attaching high value to marks in specific areas, and consider academics superior to other aspects and activities , I don't think the reforms can be successful. It is not a question of me or you; it's a question of all-of-us.

Everyone has to realize that it is each person's responsibility to make reforms happen. It has to start from somewhere. It has started with teachers' training and among parents, as they become increasingly aware. Everything has to grow together. A house cannot be built by putting a roof after building just upto plinth level! It has to be a continuous process accompanied by steady stream of improvements. As a Board or as those formulating policy, our concern is that

**The bottom line: how important is it to a teacher to get through to the children in such a fashion that they are facilitating learning? As opposed to talking all the time.**

the policies devised are those that the parent can trust. Ultimately, the parent is the main stakeholder in all these reforms. It's very important to gain that trust. And I think, the way we have devised our reforms, we are reaping that trust from the parents.

**Anuradha to Vivek Ramchandani:** Given some of our experiences, it seems that the delivery of quality education is a possibility. What are the critical factors for success that you have seen in your wide experience. Are there some insights and practices that you'd like to share?

**Vivek Ramchandani:** Bring some fun into the classroom. I was not a trained teacher when I started teaching, but common sense and developing a relationship with my kids came to my aid. I always start the class by telling a story or doing things that got everybody interested. Once you have their attention, it is a cakewalk. I believe in the five-minute rule—if you don't get their attention in the first five minutes, you've lost it right through.

When we set up the Shriram School, my main focus was bringing together people who felt strongly about the way education should be delivered in the classroom. We had to select five people who would teach Nursery, Class I and Class II from a fourteen hundred who had applied. Of the five candidates (who were selected by a panel which I stayed out of), only one was a trained teacher. Another had got the qualifications but never taught before. The remaining three were

mothers who cared and were willing to learn. The bottom line: how important is it to a teacher to get through to the children in such a fashion that they are facilitating learning? As opposed to talking all the time.

In the end, it comes back to the head of the school, or the district officer, or whoever is in-charge. If there is a positive outlook there, that is fed back down the line automatically and you will see people who are interested in doing what they do.

My premise is very simple. People go to work. Nobody wants to be bored. You need a person who derives satisfaction from teaching, (for no other job can you get the kind of satisfaction you get when you see the light of learning in a child's eyes). If teaching makes you feel you've made a difference in somebody's life, you're going to feel good about it and you're going to go home walking tall. And that's really the bottom line,

Through reforms, you have to reach children in urban and rural environments, and teachers who teach because it is convenient. A degree of professionalism and accountability is missing. We also need to focus on teacher training in such a fashion that it equally fun for the teachers. Then we will get somewhere.

That being said, I have been cynical about education for many years. For the first time, with the way the CBSE has been going, with the way our ministers speak, it seems as if people are focusing on education.. True, there is a lot of controversy, but I think you can make a start only when people are willing to sit down and talk about it.

The Mackenzie Report and other sources indicate that there's too much focus on resource and very little on process. In your experience with the Indian education system, how important do you rate the resources part of it, to ensure that quality outcomes are delivered?



The primary resource is the person. Arvind Gupta has demonstrated how little you need to create resources. I've been to schools during my time with UNICEF where we ran workshops that talked about what quality is, the importance of the teacher, group work, etc.. The fact is that while it didn't work everywhere, there were some people who are out on the limb in the remotest villages, where the district education officer never visits, where you rarely have any interference from anybody. I've seen teachers who have been to a couple workshops that sparked them off and who, without any further external inputs, have been doing amazing things. For example, in Lalitpur district or in places in Karnataka. The unfortunate thing is that it doesn't apply everywhere. So always boils down back to the person and how much that person cares.

**Anuradha to Aditya Natraj:** You've chosen to focus on training principals of government schools. What drives this focus and what do you think therefore makes the real difference, given that there are several constraints that schools work with? Also, what is the single biggest digit impact of your effort : capacity building, the multiplier effect, or something else?

**Aditya Natraj:** I work only with government schools; we train only government school principals. We don't work with the private school network. Essentially, it happened in 2002, in post-earthquake Kutch. I was working in a block called Rapar, which is in the middle of the desert and had practically no roads. The earthquake had happened during school hours—several children had lost their lives in school or knew some child who had. It was an extremely traumatic situation. Now, 85% of the teachers in Kutch are actually from outside of Kutch. So, as soon as the earthquake happened, all of them got themselves transferred back to other places. Obviously. The road had been destroyed, water was scarce and your house had fallen. Who would stay? So

Unfortunately over the last 20 years or so, a lot of negative press about the government has resulted in a loss of pride in being a government school teacher. They have lost the enthusiasm to work. People have berated them so much that they have lost the soul to teach.

everyone transferred themselves out. So we were starting up temporary schools to get something going, because if you wait for the infrastructure to come and for people to be transferred there, nothing's going to happen.

In the middle of that I went to a small village in Rapar. Our car got stuck in between and, in that one particular village, I met this principal. The common refrain in every school one went to was "Yahan pe to kuch ho hi nahin sakta. Baachon ke haalat dekhiye aap. Yeh baache toh neech jati ki hain. Yeh ladkiyon ko yahan pe bhejte hi nahi hain. Attendance ka problem hain. Teachers ke politicization ki problem hain. Government ki admin time pe nahi aati hain. Pagar ki problem hain." (Nothing can work out here. Look at the condition of the children. The children belong to the lower castes. They never send the girls to the school. There's a problem of attendance. There's the problem of politicization of teachers. The government administration is unresponsive. Salaries are problematic.)"

This principal however turned out quite the opposite. On meeting us, he had questions for us: "Why are you here? What are you going to do? How are you going to contribute to the village?" He was a person from outside of Kutch and post-earthquake

had got himself transferred into Kutch with his entire family! The school he headed had only 85 enrollments pre-earthquake. Post-earthquake, it had 135 enrollments. He had got UNICEF to contribute a tent, got some community members to consider school first priority for resource allocation by arguing like this: "Aap ki ghar mein bijli zyada zarurat hain ki baachon ki phadai ke liye (Do your homes need electricity more than it is needed for the education of children?)"

So, the only electric connection in the village was in the tent that was the school. He got children to come into school and the teachers to be teach because he created a fantastic environment. I was amazed and when I asked him why he did what he did, he said, "Government mujhe tankhwa dete hain yahi kaam karne ke liye, isiliye main kaarta hu (The government gives me a salary to do this work and that's why I do it)." It was as simple as that!

I remember blogging about it in 2002, commenting that all we need is 7,00,000 idiots like him who are willing to sit in the villages. Interestingly, over the next five years we worked with IAM Ahmedabad and they observed a similar pattern: The leader of the school seemed to make the difference, all else being equal. The good thing about being a government school principal is that, as long as you are making sure all your forms and filled and that you are sticking within the rules, no one really bothers you. So the question was: can this magic be recreated? There seemed to be about 10% of unstoppably self-motivated people, and 10% who cannot be started, who are really cynical and negative. But the challenge was whether the 80% in middle could be moved to being more positive? Could we teach them the





tools with which to start making an impact? And that's the group we are trying to work with.

Essentially, the soul of the poor government school teacher has been completely vanquished in the last 20 years; it has been obliterated by continuous government-bashing. In the '50s and '60s, attending government school was a matter of pride. My father still speaks very fondly of the school he went to. Unfortunately over the last 20 years or so, a lot of negative press about the government has resulted in a loss of pride in being a government school teacher. They have lost the enthusiasm to work. People have berated them so much that they have lost the soul to teach. In terms of impact, that is what we are trying to recreate.

One of the headmasters we spoke to said, "Mein ne 18 saal se school mein padhaya nahi ek bhi din, aab mujhe kya karoge (I haven't taught a single day in 18 years of being a teacher. What will you do to me?)." The same headmaster is now leading our program. His wife called us up and said, "Aap ne meri mister ko kya kar diya? Pehele to voh sirf rajneeti ke bare main baat karte the or paise ke bare mein baat karte the, aaj kal voh gharpe atc hain to puchte hain 'aap kaisi ho?' (What have you done to my husband? Earlier he would only speak politics or about money. Nowadays when he comes home he asks 'How are you?'). Unless one is ready to do that in his own family, there is no hope that he is going to do that with children. It is about bringing back that soul into one and helping him create a sense of meaning. Once he recognizes that over the next fifteen years he can actually change that village, that he can educate a whole generation! Once you help him see the beauty, you can't stop him anymore. Recreating that meaning at

**My friend calls it the paanwalla method of testing...If people keep questioning children in all kinds of contexts, we create a culture where all our learning is not from inside the classroom or inside a book.**

each school is what we attempt to do.

**Anuradha:** How many schools do you work with already?

**Aditya Natraj:** We work with about three hundred schools across Gujarat, Rajasthan and Maharashtra.

**Anuradha to Rukmini Banerji:** The summary of the ASER report says quantity is on the rise and quality is on the decline. However, the report also states that when focused efforts are made, learning levels improve. Can you share what solutions you have in mind and some examples on where the focus should lie so that the desired outcomes are delivered?

**Rukmini Banerji:** The ASER report is a report that we (Pratham) bring out every year for every district in the country. It asks simple questions: "Do you go to school?"; "Can you read very simple things?"; "Can you do very basic arithmetic subtraction, number recognition, division problems?" The report is published at end of every January. So far, at the macro-level, reports says that 95% of our children are enrolled in school in the 6-14 age group. But consider simple parameters. For example, if you ask fifth standard children to read the 2nd standard level text in their own language, only 50% of children can! That's kind of the finding in the report though what goes on behind the effort is the stuff that people have already mentioned. Much of India does not follow the CBSE. As taxpayers, we are all funders of education in India.

First, how well do we know our children, as parents? In a study that we did in Jaunpur district in UP, we showed parents something to read or some math to do and asked them, "Kya aap ka baacha yeh kar sakta hain? (Can you child do this?)" Interestingly, at first most parents said, "Hum aapne baache ko tuition dete hain, private schools mein bhi bhejte hain. (We send our children for tuitions and also admit them into private schools.)" Everyone, including parents, assume that doing these makes them a better parent! But when we looked at what the child could do, we found that parents, educated and uneducated, did not have a clear idea of the capability of their children to perform a particular task. They knew what class their children were in or how many marks they scored, but were very often unable to say, "Haan bilkul. Mera baacha yeh division ka sawal kar sakta hain. (Of course, my child can solve this problem in division.)" So while considering resources and structure and process, the first thing is if you don't know your own children, it's very hard for the teacher to know your children better than you. Many people, especially older ones in government schools say, "Hamara parents padhe likhe nahi the (Our parents were not educated.)" But that didn't mean that they were not engaged in the education of their children. So one of the efforts behind ASER is to say that we, as a country, need to get involved in the business of learning.

Learning doesn't only happen in the classroom. As part of the ASER effort, we ask the children to do a few things in the home and in the community. My friend calls it the paanwalla method of testing. It may not qualify as a continuous comprehensive evaluation but haar jaghe pe agar log baachon ko kuch na kuch sawal karte rahain toh (if people keep questioning children in all kinds of contexts), we create a culture where



all our learning is not from inside the classroom or inside a book. So in this year's AASER, we are also asking what we call "everyday calculation". For example, we show the child a calendar and say, "Here is a calendar. Toh calendar ke upar hum kuch sawal puch rahein hain (So we are asking you some questions about the calendar.)". Then showing the child the month of July, we ask, "3rd August kon sa din hoga? (what day would the 3rd of August be?)" You cannot imagine how many people have told me, "Yeh toh course ke bahar ka question hain (This question is outside the limits of the [academic] course.)". When we were piloting this, I was in east Delhi near Silampur railway station. A very low-income area, we were doing it outside some shops. And when explained what we were doing, the tailor from a shop close by said, "Why don't you ask them questions jo hamare yahan hote hain. Yeh ladka iske shirt ke liye kitna kapda lagega? Aur uska bhai usse dugna mota hain toh uske liye kitna kapda lagega? (that are to do with this context. Like how cloth would it take to make a shirt for this child? Or how much cloth for his brother who is twice his size?)"

So I one of the efforts behind what we are doing is to make everyone aware that this business of asking questions and of looking for answers can be much more widespread. And just because I've sent my child to tuition and I get up in the morning to make her tiffin doesn't absolve me of creating this learning environment around me.

Punjab is a good example of where things have changed. There are about fourteen thousand government primary schools in the state. About two years ago the Punjab government decided that everybody should acquire a basic level of learning, of reading and doing math. Grade level is much higher and of course you need to strive to get there, but "no child to be left behind". Pratham

partnered the Punjab government in this effort. I went there towards the end of that school year, and the best thing was that in school after school that we went to, kids would jump up and say "Mujhe pucho (Ask me!)". The teachers were a little bit more cautious and skeptical but the children were completely befikar (without worries) and wanted to be asked questions. There were kids who would say, "Koi bhi sawal puch ke dekho, mujhe nahi aata woh meri friend ko aata hain (Ask me any question and see. If I don't know the answer, my friend will know.)". That is a rare and beautiful kind of confidence.

Now if you look at the data, Punjab showed a very high 30-40% point improvement at a very basic level. They had not revolutionized their system and got everybody upto grade level. But the system was aligned, there was a good team in place and there was effective leadership. You have to have everybody aligned on the result you desire; we all want many things but if everybody wants different things, it's very hard to achieve a result. We need some common vocabulary of what we want.

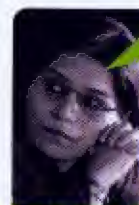
Moreover, the Punjab government did one fundamental thing which I consider revolutionary. According to me, the last innovation in education was creating an age-grade class (standard 1, 2, 3, 4, 5 and you have kids of certain ages in these classes). Inexplicably, while this made sense in 17th or 18th centuries, during the industrial revolution when it was needed, it doesn't in the Indian government school context today. Here, there are children in the fifth standard who are at younger grade levels of competency. The teacher has an incredible task -- apart from the "walkers" and "talkers", and the movers and the shakers, there are also children who are at a different level cognitively. And they are all of different ages. If you look at states like UP, there are children in first standard

who are 11! There are also under-age children because parents think that jaldi se padhne ko bhejdo toh zyada shiksha ho jaigi (if we send them to school earlier then they will gain more education.). Of course, if you entered school or first standard at four, you are not doing anybody a service.

To address this, the Punjab government was able to reorganize the classes for two hours a into Mehels. The children were grouped together in Mehels on the basis of their ability. A child was not tied into the mehel but could move to the next one as soon as an ability was acquired. For the rest of the school day, the child returned to their own sort of grade level. To achieve this reorganizing of time to meet the needs of the children in 14,000 government-run schools where the teachers are used to certain practices, is an incredible revolution. ,

If a government school system can be about these changes there is much hope. But to be so aligned, you need to know what you want to do; you need to focus all your energy and make optimum use of your structures and resources. ■

**SCHOOL OF TOMORROW**  
The AASER Conference on the Future of School Education  
**SPECIAL FEATURE**



#### ANURADHA DAS MATHUR

is one of the founders of 9.9 Media. She studied economics at Lady Sriam College, New Delhi and Trinity College, Cambridge University. She led the research

and advisory business for the Indian affiliate of the Economist Intelligence Unit for almost 12 years. Most recently, she headed Businessworld and launched a series of business intelligence services for the magazine.



The classic Maya and the Yucatan, the Easter Islanders, the Anasazi, Fertile Crescent society, Angkor Wat, Great Zimbabwe are some of the societies that have collapsed due to underlying environmental problems



File Picture: The ruins of Angkor Wat



# Why Societies COLLAPSE

Why do societies fail? With lessons from the Norse of Iron Age Greenland, deforested Easter Island and present-day Montana, **Jared Diamond** talks about the signs that collapse is near, and how – if we see it in time – we can prevent it.

I think all of us have been interested in, at one time or another, in the romantic mysteries of all those societies that collapsed, such as the classic Maya and the Yucatan, the Easter Islanders, the Anasazi, Fertile Crescent society, Angkor Wat, Great Zimbabwe and so on. And within the last decade or two, archaeologists have shown us that there were environmental problems underlying many of these past collapses. But there were also plenty of places in the world where societies have been developing for thousands of years without any sign of a major collapse, such as Japan, Java, Tonga and Tikopea. So evidently, societies in some areas are more fragile than in other areas.

The problem is obviously one relevant to our situation today, because today as well there are some societies that have already collapsed, such as Somalia and Rwanda and the former Yugoslavia. There are also societies today that may be close to collapse, such as Nepal, Indonesia and Columbia.

How can we understand what makes some societies more fragile than other societies? The problem is obviously one relevant to our situation today, because today as well there are some societies that have already collapsed, such as Somalia and Rwanda and the former Yugoslavia. There are also societies today that may be close to collapse, such as Nepal, Indonesia and Columbia.

What about ourselves? What is there that we can learn from the past that would help us avoid declining or collapsing in the way that so many past societies have? Obviously the answer to this question is not going to be a single factor. If anyone tells you that there is a single-factor explanation for



societal collapses, you know right away that they're idiots. This is a complex subject. But how can we make sense out of the complexities of this subject? In analyzing societal collapses, I've arrived at a five-point framework: a checklist of things that I go through and try to understand collapses. And I'll illustrate that five-point framework by the extinction of the Greenland Norse society. This is a European society with literate records, so we know a good deal about the people and their motivation. In AD 984 Vikings went out to Greenland, settled Greenland and around 1450 they died out – the society collapsed, and every one of them ended up dead.

Why did they all end up dead? Well, in my five-point framework, the first item on the framework is to look for human impacts on the environment: people inadvertently destroying the resource base on which they depend. And in the case of the Viking Norse, the Vikings inadvertently caused soil erosion and deforestation, which was a particular problem for them because they required forests to make charcoal, to make iron. So they ended up an Iron Age European society virtually unable to make their own iron.

A second item on my checklist is climate change. Climate can get warmer or colder or dryer or wetter. In the case of the Vikings in Greenland, the climate got colder in the late 1300s, and especially in the 1400s. But a cold climate isn't necessarily fatal, because the Inuit—the Eskimos inhabiting Greenland at the same time – did better rather than worse with cold climates. So why didn't the Greenland Norse as well?

**In AD 984 Vikings went out to Greenland, settled Greenland and around 1450 they died out – the society collapsed, and every one of them ended up dead.**

The third thing on my checklist is relations with neighboring friendly societies that may prop up a society. And if that friendly support is pulled away, that may make a society more likely to collapse. In the case of the Greenland Norse they had trade with the mother country, with Norway, and that trade dwindled partly because Norway got weaker, partly because of sea ice between Greenland and Norway.

The fourth item on my checklist is relations with hostile societies. In the case of Norse Greenland, the hostiles were the Inuit, the Eskimos sharing Greenland with whom the Norse got off to bad relationships. And we know that the Inuit killed Norse, and, probably of greater importance, may have blocked access to the outer fjords on which the Norse depended for seals at a critical time of the year.

And then finally, the fifth item on my checklist is the political, economic, social and cultural factors in the society that make it more or less likely that the society will perceive and solve its environmental problems. In the case of the Greenland Norse, cultural factors that made it difficult for them to solve their

problems were their commitments to a Christian society investing heavily in cathedrals, their being a competitive-ranked chiefly society and their scorn for the Inuit, from whom they refused to learn. So that's how the five-part framework is relevant to the collapse and eventual extinction of the Greenland Norse.

What about a society today? For the past five years, I've been taking my wife and kids to Southwestern Montana, where I worked as a teenager on the hay harvest. And Montana at first sight seems like the most pristine environment in the United States. But scratch the surface, and Montana suffers from serious problems. Going through the same checklist: human environmental impacts. Yes, acute in Montana. Toxic problems from mine waste have caused damage of billions of dollars. Problems from weeds, weed control, caused Montana nearly 200 million dollars a year. Montana's lost agricultural areas from salinization, problems of forest management, problems of forest fires. Second item on my checklist: climate change. Yes -- the climate in Montana is getting warmer and drier, but Montana agriculture depends especially on irrigation from the snow pack, and as the snow is melting, for example, as the glaciers in Glacier National Park are disappearing, that's bad news for Montana irrigation agriculture.

Third thing on my checklist: relations with friendlies that can sustain the society. In Montana today, more than half of the income of Montana is not earned within Montana, but it's derived from out of state: transfer payments from



social security, investments and so on, which makes Montana vulnerable to the rest of the United States.

Fourth: relations with hostiles. Montanans have the same problems as do all Americans in being sensitive to problems created by hostiles overseas, affecting our oil supplies, and terrorist attacks. And finally, last item on my checklist: question of how political, economic, social, cultural attitudes play into this. Montanans have long-held values which today seem to be getting in the way of their solving their own problems. Long-held devotion to logging and to mines and to agriculture, and to no government regulation. Values that worked well in the past, but they don't seem to be working well today.

So, I'm looking at these issues of collapses for a lot of past societies and for many present societies. Are there any general conclusions that arise? In a way, just like Tolstoy's statement about every unhappy marriage being different, every collapsed or endangered society is different—they all have different details. But nevertheless, there are certain common threads that emerge from these comparisons of past societies that did or did not collapse and threatened societies today. One interesting common thread has to do with, in many cases, the rapidity of collapse after a society reaches its peak. There are many societies that don't wind down gradually, but they build up, get richer and more powerful, and then within a short time, within a few decades after their peak, they collapse. For example, the classic lowland Maya of the Yucatan began

**The classic lowland Maya of the Yucatan began to collapse in the early 800s, literally a few decades after the Maya were building their biggest monuments, and Maya population was greatest...the collapse of the Soviet Union took place within a couple of decades, maybe within a decade, of the time when the Soviet Union was at its greatest power.**

to collapse in the early 800s, literally a few decades after the Maya were building their biggest monuments, and Maya population was greatest.

Or again, the collapse of the Soviet Union took place within a couple of decades, maybe within a decade, of the time when the Soviet Union was at its greatest power. An analogue would be the growth of bacteria in a petri dish. These rapid collapses are especially likely where there's a mismatch between available resources and resource consumption, or a mismatch between economic outlays and economic potential. In a petri dish, bacteria grow. Say they double every generation, and five generations before the end the petri dish is 15/16ths empty, and then the next generation's 3/4ths empty and the next generation half empty.

Within one generation after the petri dish still being half empty, it is full. There's no more food and the bacteria have collapsed. So, this is a frequent theme that societies collapse very soon after reaching their peak in power.

What it means to put it mathematically is that if you're concerned about a society today, you should be looking not at the value of the mathematical function, the wealth itself, but you should be looking at the first derivative and the second derivatives of the function. That's one general theme.

A second general theme is that there are many, often subtle environmental factors that make some societies more fragile than others, and many of those factors are not well understood. For example, why is it that in the Pacific, of those hundreds of Pacific islands, why did Easter Island end up as the most devastating case of complete deforestation?

It turns out that there were about nine different environmental factors, some rather subtle ones, that were working against the Easter Islanders, and they involve fallout of volcanic tephra, latitude, rainfall. Perhaps the most subtle of them is that it turns out that a major input of nutrients which protects island environments in the Pacific is from the fallout of continental dust from central Asia. Easter, of all Pacific islands, has the least input of dust from Asia restoring the fertility of its soils. But that's a factor that we didn't even appreciate until 1999.

So, some societies, for subtle environmental reasons, are more fragile than others. And then



finally, another generalization. Because I'm now teaching a course at UCLA, to UCLA undergraduates, on these collapses of societies. What really bugs my UCLA undergraduates students is, how on earth did these societies not see what they were doing? How could the Easter Islanders have deforested their environment? What did they say when they were cutting down the last palm tree? Didn't they see what they were doing? How could societies not perceive their impacts on the environments and stop in time?

And I would expect that if our human civilization carries on, then maybe in the next century, people will be asking why on earth did these people today in the year 2003 not see the obvious things that they were doing and take corrective action? It seems incredible in the past. In the future it'll seem incredible what we are doing today. And so I've been trying to develop a hierarchical set of considerations about why societies fail to solve their problems. Why they fail to perceive the problems, or if they perceive them, why they fail to tackle them? Or, if they fail to tackle them, why do they fail to succeed in solving them?

I'll just mention two generalizations in this area. One blueprint for trouble, making collapse likely, is where there is a conflict of interest between the short-term interest of the decision-making elites and the long-term interest of the society as a whole, especially if the elites are able to insulate themselves from the consequences of their actions. Where what's good in the short run for the elite is bad for the society as

**One blueprint for trouble, making collapse likely, is where there is a conflict of interest between the short-term interest of the decision-making elites and the long-term interest of the society as a whole, especially if the elites are able to insulate themselves from the consequences of their actions.**

a whole, there's a real risk of the elite doing things that would bring the society down in the long run.

For example, among the Greenland Norse—a competitive-rank society—what the chiefs really wanted is more followers and more sheep and more resources to outcompete the neighboring chiefs. And that led the chiefs to do what's called flogging the land: overstocking the land, forcing tenant farmers into dependency. And that made the chiefs powerful in the short run, but led to the society's collapse in the long run.

Those same issues of conflicts of interest are acute in the United States today. Especially because the decision makers in the United States are frequently able to insulate themselves from consequences by living in gated compounds, by drinking bottled water and so on. And within the last couple of years, it's been

obvious that the elite in the business world correctly perceive that they can advance their short-term interest by doing things that are good for them but bad for society as a whole, such as draining a few billion dollars out of Enron and other businesses. They are quite correct that these things are good for them in the short term, although bad for society in the long term. So, that's one general conclusion about why societies make bad decisions: conflicts of interest.

And the other generalization that I want to mention is that it's particularly hard for a society to make, quote, good decisions when there is a conflict involving strongly-held values that are good in many circumstances but are poor in other circumstances. For example, the Greenland Norse, in this difficult environment, were held together for four-and-a-half centuries by their shared commitment to religion and by their strong social cohesion. But those two things—commitment to religion and strong social cohesion—also made it difficult for them to change at the end and to learn from the Inuit. Or today, Australia.

One of the things that enabled Australia to survive in this remote outpost of European civilization for 250 years has been their British identity. But today, their commitment to a British identity is serving Australians poorly in their need to adapt to their situation in Asia. So it's particularly difficult to change course when then the things that get you in trouble are the things that are also the source of your strength.



What's going to be the outcome today? Well, all of us know the dozen sorts of ticking time bombs going on in the modern world.

Time bombs that have fuses of a few decades to—all of them, not more than 50 years, and any one of which can do us in. The time bombs of water, of soil, of climate change, invasive species, the photosynthetic ceiling, population problems, toxics, et cetera, et cetera—list about 12 of them. And while these time bombs—none of them has a fuse beyond 50 years, and most of them have fuses of a few decades—some of them in some places have much shorter fuses.

At the rate at which we're going now, the Philippines will lose all its accessible loggable forest within five years. And the Solomon Islands are only one year away from losing their loggable forest, which is their major export. And that's going to be spectacular for the economy of the Solomons.

People often ask me, Jared, what's the most important thing that we need to do about the world's environmental problems? And my answer is, the most important thing we need to do is to forget about there being any single thing that is the most important thing we need to do. Instead there are a dozen things, any one of which could do us in. And we've got to get them all right, because if we solve 11, we fail to solve the 12th, we're in trouble. For example, if we solve our problems of water and soil and population, but don't solve our problems of toxics, then we are in trouble.

The fact is that our present course is a non-sustainable course, which

**The big problems facing the world today are not at all things beyond our control.**

**Our biggest threat is not an asteroid about to crash into us, something we can do nothing about. Instead, all the major threats facing us today are problems entirely of our own making. And since we made the problems, we can also solve the problems.**

means by definition that it can not be maintained. And the outcome is going to get resolved within a few decades. That means that those of us in this room who are less than 50 or 60 years old will see how these paradoxes are resolved, and those of us who are over the age of 60 may not see the resolution, but our children and grandchildren certainly will.

The resolution is going to achieve either of two forms: either we will resolve these non-sustainable time fuses in pleasant ways of our own choice by taking remedial action, or else these conflicts are going to get settled in unpleasant ways not of our choice namely, by war, disease or starvation. But what's for sure is that our non-sustainable course will get resolved in one way or another in a few decades. In other words, since the theme of this session is choices, we have a choice. Does that mean that we should get pessimistic and overwhelmed? I draw the reverse conclusion.

The big problems facing the world today are not at all things beyond our control. Our biggest threat is not an asteroid about to crash into us, something we can do nothing about. Instead, all the major threats facing us today are problems entirely of our own making. And since we made the problems, we can also solve the problems.

That then means that it's entirely in our power to deal with these problems. In particular, what can all of us do? For those of you who are interested in these choices, there are lots of things you can do. There's a lot that we don't understand, and that we need to understand. And there's a lot that we already do understand, but aren't doing, and that we need to be doing. ■



**JARED DIAMOND** is a globally renowned scholar and author who finds answers to the massive "Why?"s in so vast you don't notice patterns in history. His bestselling and Pulitzer-winning book *Guns, Germs and Steel* looks at the reasons

history turned out the way it did—why European societies conquered the rest of the world instead of the other way around. His latest book, *Collapse*, asks nearly the opposite: Why do some civilizations fail?

**TED** ideas worth spreading

The video of this article is available on [www.ted.com](http://www.ted.com)





## A WONDERFULLY BOOKISH EXPERIENCE

Aravinda A just can't stop gushing over Jumpstart: Join the dots 2010, the two-day conference on children's literature held at the capital city.

Text: Aravinda A  
Photos: Anusha Yadav

I'd never attended a conference before but an invitation to one on children's books was a very attractive proposition. Two days of authors, illustrators, publishers, librarians, all talking about books...two whole days! Couldn't pass that one up now, could I?

That's how I found myself in Delhi on a rainy and incredibly humid morning. The Indira Gandhi National Centre for the Arts was the venue and I walked in to see the super efficient German Book Office team getting everything set for the opening session. I stared wide-eyed as people walked in; I saw authors whose books I had read, editors looking their formidable selves, enthusiastic librarians and teachers, aspiring writers, some school principals...all bustling about.

The opening session began almost on time with the editor of Young Zubaan (and woman behind events like Jumpstart and



Bookaroo) Anita Roy speaking to actor and now writer, Tom Alter, actor Sushma Seth and educationist Nina Sehgal on their take on children's books.

Once that was over and done with, the programme opened out. Day 1 had seven sessions:

The Art of Children's Books, The Library: A Child's First Step towards Lifelong Learning, Translating Children's Literature, Bring Books Alive: Improving your Storytelling Skills, Cross-over Fiction: Myth or Reality?, The Rights Stuff, Celebrating Books: Festivals, Awards, Book fairs and Book Initiatives.

It was tough to choose the sessions one wanted to attend for at any given time slot, there were two sessions running parallel. In all there were 60 speakers from 9 countries including India, Germany, Abu Dhabi, America, France, Norway, Singapore, Switzerland and the UK. Everyone seemed to bring solid experience and passion that crackled through.



L to R: Anita Roy, Tom Alter and Nina Sehgal

My first choice was made, since I was speaking at the session on libraries. And what a fantastic panel of speakers! There was Arvind Kumar, former head of NBT and Scholastic India, now part-time hill dweller and publisher of children's books, Ramesh Gaur, librarian at the IGNC, Ute Hachmann, librarian par excellence from the Brilon Public Library in Germany. The session was moderated by Ariya Zaidi of Ratna Sagar, so friendly and warm. It was heartening to hear the various

In all there were 60 speakers from 9 countries including India, Germany, Abu Dhabi, America, France, Norway, Singapore, Switzerland and the UK.



initiatives that people were doing, whether it is the community library in Uttarkhand that Arvind Kumar and his wife Arundhati run, or the extremely fun initiatives that the public library system in Germany offer kids and parents. More heartening was to have the audience come over after the session to talk about challenges they face as teachers and librarians.

Post lunch, I picked the session on storytelling, having a fondness for this medium. I got to hear three fantastic performers – Danish Hussain, dastango, Neel Chaudhri, actor, and my favourite, Paro Anand, writer of tales and teller of





What Jumpstart did very well, in my opinion, was bring together everyone interested and working with children's literature and share ideas and thoughts

stories. Storytelling is not an easy art and here they were casting spells with just their voice and body – it's always magical to come in the presence of a great storyteller and here were three!

Each session ran for an hour with 4-5 speakers, followed by Q&A. Time seemed to just fly by and people were eagerly catching up between sessions, and over lunch and coffee.

In the course of my wanderings through the halls, I bumped into some very interesting people doing some very interesting work. To name a few, there was Deepak Dalal who writes the Vikram Aditya series of books. I like that his books tie-in the Indian terrain whether it's Ladakh in his Ladakh Adventure, or the western ghats in the Sahayadri Adventure, or the tigers in the Ranthambore Adventure, or the beautiful snow

leopard in the Snow Leopard Adventure...his books take us to places in the country that are beautiful and under crisis. There was Gopi, from the CRPF who had written a whole bunch of poems and was looking for a publisher, Anjali Raghbeer whose books on Art (Looking at Art series, Tulika Books) are probably the best known art books for kids in India, Lene Ask, writer and illustrator from Norway whose books incidentally have been translated into Hindi by Arvind & Arundhati (A&A Book Trust). I managed to read a few pages of her comic, Hitler, Jesus and the Grandfather that had been translated into English. It's the story of a girl who goes to Germany in search of her grandfather and doesn't know what to expect. Loved the humour!

To add to the general bonhomie were book displays, a graffiti board, book donation boxes for the UNICEF, spaces where colourful post-its allowed people to name their favourite books...all creating a wonderfully bookish atmosphere.

The second day's sessions were Getting Organized: The Power of

Paro Anand, writer and storyteller par excellence







Association, 'Tricky Issues, New Technology: Friend or Foe?', Comics and Graphic Novels, Marketing Children's Books.

Some of the speakers were Eklavya's Tultul Biswas who spoke about their newest project – a Centre for Children's Literature, Gautam John of Pratham Books, illustrators and graphic artists, George Mathen, Sarnath Banerjee and Karan Vir

Arora of Vimanika Comics, and Sayoni Basu, Publishing Director of Scholastic India.

One of the highlights was a session for illustrators where the young and aspiring got to show their portfolios, network with others in the field and get feedbacks? I saw loads of young artists with their sketchbooks and it was good to know there was a forum for them to get expert feedback.

Each session ran for an hour with 4-5 speakers, followed by Q & A



What Jumpstart did very well, in my opinion, was bring together everyone interested and working with children's literature to share ideas and thoughts. We are still in the very early stages as far as children's literature goes and sessions like Jumpstart will propel this growth in the right direction. Personally for me, it was reaffirming speak of the work we do at Hippocampus and hear so much positive feedback from others. Likewise, I loved being able to go up to an author and tell him or her how much kids at my library enjoyed their books.

The two-day session ended with a marvellous performance called Pecha Kucha by the Tadpole Repertory. Seven young people aged 8-17 presented a selection of short readings, playful verse and curious tales, a fitting end to a celebration of children's literature. ■



**ARAVINDA** is an aspiring author and has been with Hippocampus, Bangalore since its inception in 2003. She has written two books for children on Tibetan life in exile, published under the indie imprint Lajja Mami Books.



# RECOMMENDED READING

Text: Aravinda A.



## MURDER AT MIDNIGHT

Avi

Scholastic Press

Avi is an author who comes highly recommended in my library. A prolific writer, it's hard to miss his books, especially when so many of them have done so well, like the Poppy series set in Dimwood Forest, the Crispin books (the last of which was released in 2010), among others.

I picked up *Murder at Midnight* because of a recent preference for thrillers and murder mysteries. And the book does not disappoint. If you've read Avi's *Midnight Magic*, the characters will be familiar. Although written a decade after, this book is a prequel to *Midnight Magic*, which I cannot write about since I haven't read it yet.

*Murder at Midnight* is set in a fictional Italian kingdom of Pergamontio. It's dark and reminiscent of Dickensian London. Add to it the young protagonist – Fabrizio and you enter a whole other world. Fabrizio works for the magician Mangus and his wife although Mangus insists he has no use for him. Orphaned and unwilling to return to life on the streets, Fabrizio must make his usefulness apparent if he can continue to live in

Mangus' house. Soon he has the opportunity to prove his worth when Mangus is charged with conspiracy to overthrow King Claudio. Young Fabrizio finds himself unextricably linked in this web of suspense.

Fabrizio sometimes seems infuriatingly naïve and I can see why Mangus is impatient with him. And yet he suddenly surprises you with his gems of wisdom – "When liars are found, truth is hidden" or "If you have to choose between your friends or enemies, better to know your friends".

Anyway, trouble persists in Pergamontio and Prince Cosimo, the heir to the throne, Magistrato DeLaBina and Count Scrazoni are the prime suspects, it seems. Fabrizio and Mangus are under arrest and not only does Fabrizio have to escape execution but he

must also have the truth revealed and Mangus released. Talk about making himself useful!

I'd recommend this book to anyone who enjoys unravelling a mystery and solving a tight knot of a problem. And once you are done with it, go pick up *Midnight Magic* as I just did.

## RANTHAMBORE ADVENTURE

Deepak Dalal

Tarini Publishing

If you are worried about the tiger crisis and wish to initiate some discussions with your students, I'd recommend *Ranthambore Adventure*, the only one of its kind I have seen coming from India. Deepak Dalal, the man who writes about

the Indian terrain in his Vikram Aditya stories is doing a fantastic job of telling some very important stories to young readers.

I am yet to catch up on his other books – *Snow Leopard Adventure*, *Andaman Adventure*, *Lakshwadeep Adventure*, *Sahayadri Adventure*, etc. But I absolutely loved the *Ranthambore Adventure* because it's a good book on the beautiful animal that is fighting to remain on Earth.

Vikram Singh and Aditya Khan are two young boys, intelligent, sensitive and adept at solving mysteries. In this book, Aditya finds himself going after a known tiger poacher, Shankar Chand. Call it bravado or foolishness, he sets out after the poacher and manages to get hold of Shankar Chand's diary. Vikram meanwhile is in Ranthambore, waiting for his friend to join him. Little does he realise that Aditya will land in Ranthambore with Shankar Chand's men at his heels.

While Vikram and Aditya fight off the poachers and try to reach proof of their involvement to the wildlife officials, the book tells us another story. The story of the tiger cubs Genghis and Padmini. It begins with their birth—Genghis soon occupies an important place in the

sequence of events. Dalal has managed to create a great bond of empathy and one worries for Genghis. We shadow him through the book, through his first kill, his striking out on his own, his pain...Genghis's fight for survival in a poacher-ridden world is consumed with a sense of





urgency. And urgent it is, with the dwindling numbers of tigers.

This sense of urgency is transferred to the chase between Vikram and Aditya and the poachers and it becomes apparent why the poachers must be contained without delay. The stories of Genghis and Vikram and Aditya intersect when Genghis' life is in danger, and the boys are at their wits' end.

While this book has a happy ending, it also sends an important message out, that in reality, the tigers are not safe. The time for their extinction does loom over our heads and it is still perhaps possible to delay the inevitable.

## SEVEN YEARS IN TIBET

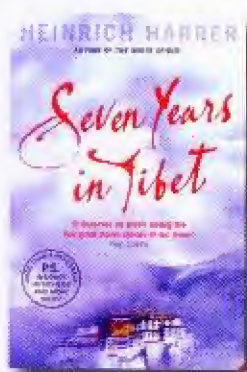
Heinrich Harrer  
Harper Collins

I happen to be doing a little research on Tibet and this is one of the recommended books on the early 20th century history of the country. Reading it, I can see why it still ranks as a great read. Travelogues are interesting especially in that they offer an outsider's perspective to a culture and people. But *Seven Years in Tibet* does something else for this genre.

Heinrich Harrer, Austrian mountaineer, was in the Himalayas with his team of mountaineers, completing their expedition when the Second World War broke out. Finding themselves in British India, it was only days before they became prisoners of war. He made a few attempts to escape finally succeeding

to reach Tibet in 1945 along with his compatriot Peter Aufschnaiter.

In all, Harrer and Aufschnaiter spent 7 years in Tibet. As it turned out these were the most significant years in Tibet's recent history. Harrer talks about his love for the mountains, entering the mysterious land of Tibet and trying to find his place there. So while he begins speaking of it as an outsider, we also see how he's trying to make it his home. Along the way, it ceases to be a mere travelogue and becomes the story of his adapting to a new culture. Neither Harrer nor Aufschnaiter spent their time idling in Tibet; they were remarkably industrious and sought work that would put their skills in engineering, gardening, translating, map making to use. Eventually Harrer would become the young Dalai Lama's tutor and friend.



What makes for interesting reading is the readiness with which Harrer learns about the culture. He's also objective about what worked in the Tibet of that period and what didn't, without condescension. His love for Tibet and Tibetans grows steadily through the pages and it reaches a poignant moment when the time for his return comes suddenly with the Chinese invasion of the country he has made his second home.

For teachers, this is a great book to introduce your wards to a new country. I'd recommend it for any history or geography lesson. *Seven Years in Tibet* has been made into a successful film in which Brad Pitt portrays Harrer. Watch it but only after you've read the book first. ■



## THE GOOD READING GUIDE

1. The Shapes We Eat (Rookie Read-About Math) (5-7)
2. The Three Rs: Reuse, Reduce, Recycle (Let's Learn About) (5-7)
3. Yakkity Yak by Benita Sen (5-7)
4. Runny Babbit: A Billy Sook by Shel Silverstein (5-7)
5. Molly McGinty has a Really Good Day by Gary Paulsen (7-9)
6. My Book of Trees by Nimret Handa (7-9)
7. Mudpuddle Farm: Alien Invasion by Michael Morpurgo (7-9)
8. We, the children of India: Preamble to our constitution by Lella Seth (8-12)
9. How to be a Pirate by Cressida Cowell (8-12)
10. Indian Culture for Everyone by Shobita Punja (Ed.) (9+)
11. The Magic Thief by Sarah Prineas (9-12)
12. The Atlantis Complex (Artemis Fowl) (9+)
13. The Red Pyramid (The Kane Chronicles) by Rick Riordan (12+)
14. Three Cups of Tea, the young readers edition by Greg Mortenson (12+)
15. Murder at Midnight by Avi (12+)
16. The Infinity Code (S.T.O.R.M) by E.L Young (12+)
17. Ranthambore Adventure by Deepak Dalal (12+)
18. Wolf Brother (Chronicles of Ancient Darkness) by Michelle Paver (12+)
19. Seven Years in Tibet by Heinrich Harrer (for teachers)
20. Three Cups of Tea by Greg Mortenson (for teachers)



**ARAVINDA** is an aspiring author and has been with Hippocampus, Bangalore since its inception in 2003. She has written two books for children on Tibetan life in exile, published under an indie imprint Lama Mani Books.



## INTERVIEW: DAVID PERKINS

Luke Haack interviews Dr. Perkins, Senior Faculty at Harvard School of Education  
and founding member of the Harvard Project Zero

**Tell us about your journey into the education world and the factors that prompted you to take this path. Your personal heroes...**

I did my doctoral work in the area of mathematics and artificial intelligence at MIT. Along the way, I got interested in human cognition, which is very relevant to research in artificial intelligence. I sat in on a course at MIT taught by a cognitive scientist named Paul Kolars. We liked one another and I became a research assistant for him and we wrote a couple of articles together. A few months later, Nelson Goodman, a philosopher at Harvard, formed Project Zero, a basic research initiative in cognition, the arts, and education (years later it broadened out well beyond the arts). Nelson Goodman knew Paul Kolars and asked him to participate in a small way in the effort and to recommend some students. Besides mathematics and science, I was very interested in the arts. Paul recommended me. I began to participate on the side as I was completing my dissertation, got involved, and went to work at Project Zero after taking my degree. A couple of years later, I and my longtime colleague Howard Gardner inherited Project Zero from Nelson Goodman and gradually expanded it into a much larger and more comprehensive research and development initiative.

Paul has always been one of my heroes. He was a wonderful teacher and a fine researcher, asking fundamental questions about the way the mind worked. He was also a great wit. Sadly, he passed away prematurely a number of years ago. Another hero, from my high school education, was a mathematics teacher by the name of Theodore Emory, who encouraged mathematical inquiry and allowed me and another class member to pursue personal interests in mathematics beyond what the rest of the class was doing.

**How did your own schooling experience hone your personal educational philosophy?**

That's a good question and the answer is surprising: hardly at all! I didn't become seriously involved in education as a discipline until I had almost completed my doctoral degree. Then I began to think back and select figures like Theodore Emory and Paul Kolars, who seemed to me to have fostered learning in an especially effective way.

**What makes a good teacher?**

It's not "one size fits all." But perhaps the most general characteristic is this: A good teacher fosters learning. The mission of a good teacher is more than just giving a good lecture or offering informative feedback or even inspiring. It's more holistic. It involves supporting and encouraging the learning process, and that often involves interactions that go well beyond teaching in its narrowest sense. For instance, fostering learning can include, at strategic moments, doing nothing, leaving learners alone to find their own way for a while.

**What is indispensable to creating a great physical environment in the classroom/school?**

"Indispensable" is a strong word. Years ago, when I was doing some educational work in South Africa, I saw black children being taught in a shipping container



"I didn't become seriously involved in education as a discipline until I had almost completed my doctoral degree"

that had been given to a poor community by a shipping company. This was quite common. Constructing school buildings was expensive, and a large shipping container could make an "instant classroom." There were only a few textbooks and no furniture; the children were sitting on the floor. However, they seemed engaged in the learning process. In other words, "indispensable" is relative – compared to what?

That said, my general leaning is to look for flexible learning spaces, where chairs and desks can be arranged in small groups part of the time; and to look for learning spaces where charts, diagrams, and other elements, some of them constructed by students, can remain on the wall for periods of time and get added to, representing a trajectory of learning. Such simple matters can make a considerable difference in the richness of the learning environment – but only, of course, if the teachers and students take advantage of them.

**Books that you would highly recommend for any teacher/educator's bookshelf.**

Well, there are my own books of course! They are very much written for teachers and more generally educators, rather than for educational researchers. A personal favorite of mine is Neil Postman's *The End of Education*. I like the book because it addresses a rather neglected side of the educational endeavor: What education is for. Postman points out that a great deal of educational research and development focuses on methods, and "engineering problem" as he characterizes it. However, Postman urges, the real problem is one of goals not methods: What do we want learners to learn and why? This is the "end" that Postman refers to in his title – not end in the sense of termination but end in the sense of goal. Postman's question is a tremendously important one.

**Policy changes/reforms that are essential to making the school of tomorrow.**

There are many ways to look at this but to me one of the most important is the question of educational ends mentioned above. What is a worthwhile curriculum needs fundamental reconsideration in most settings with which I am familiar. Much of what we typically ask students to learn is simply not worth learning. Most students will never encounter many of the ideas again in their entire lives. Too much of what we teach is poorly aligned with the lives learners are likely to live in the understandings they are likely to want or need.

**What values from the school of today shouldn't be lost in the school of tomorrow?**

One such value is certainly the commitment of teachers. For most teachers, the profession of teaching reflects a personal calling. People do not become teachers to make big money. They become teachers because they care about children's learning and value the contribution their efforts make to society. I certainly feel that teaching should be a more honored and better rewarded profession than it often is. But I hope that teaching will never lose its fundamental quality of being a personal commitment. ■

**Read more about Dr. Perkins' in Page 35**